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MANAGEMENT OF BREECH PRESENTATION BY EXTERNAL VERSION AND ITS EFFECTS ON PREMATURITY AND MORTALITY OF INFANTS

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Introduction

In July, 1936, we presented before the Bombay Obstetric and Gynæcological Society our study of treatment of breech presentation by external version, reviewing at the same time the literature on the subject to compare our results. An abridged version of this article was published in the British Medical Journal, 1937, Vol. I, page 706.

Our study comprised of a review of 5,028 deliveries, in 3,240 of which all breech presentations were allowed to continue as such while in the remaining 1,788, breech were treated by external version during pregnancy. Results of 110 such cases were discussed. The following observations were made from the above study :—

(1) Incidence of breech presentation was 2·7 per cent while in those in which external version was performed gave the incidence of 0·6 per cent.

(2) A fœtus weighing 5 lbs. and over was taken as mature and one below 5 lbs. as premature. On this standard 39·6 per cent of the babies born in non-treated cases were premature with the fœtal mortality of 74·3 per cent. In the mature, it was 13·2 per cent. In the cases treated by external version, the percentage of premature babies was 14·6 per cent, fœtal mortality being 4·25 per cent in premature and 1·1 per cent in the mature.

(3) The fœtal mortality in non-treated breech cases was 37·5 per cent while in those treated by external version, it was 4·54 per cent.

(4) External versions were performed between the 33rd and 36th weeks and hopes were entertained that the results regarding the incidence of prematurity and fœtal mortality would improve if external version was performed a couple of weeks earlier.

(5) Operation of external version without anæsthesia was easy and without any danger if performed carefully and not later than the 34th week.

(6) A suggestion was made that high percentage of prematurity amongst the infants was due to breech presentation and the age old observation that breech deliveries were the result of prematurity was doubted.

(7) Observation was made that 58·2 per cent of the breech presentation found antenatal from the 28th week onwards failed to turn to vertex naturally.

(8) Result of breech labours were more disastrous in primiparæ than in multiparæ.

The literature published on this subject subsequent to the publication of our article has been reviewed by us. We find a general agreement on the fact that external version for breech presentation during pregnancy was the best treatment. Criticism and difference of opinion were expressed as to (*a*) the time when external version should be performed,

(*b*) possible dangers of the operation and its repetition, while our suggestion that (*c*) the breech presentation was the cause of the increased number of premature births in these cases has not attracted attention of any of the authors of the articles published.

Time of performing version. Williamson (1937) observed that breech presentation should be converted to vertex by external manipulations whenever this was possible. Moir (1936) and D'Esopo (1937) expressed similar opinions. Danforth and Galloway (1937) advised external version at the end of the 8th month, *i.e.*, 32nd week, and if it failed it should not be tried again for dangers of drawing the chord tight round the child's neck. In multiparæ, they did not advise external version. Munro Kerr (1937) observed that it became execessively difficult from the 34th week onwards and more dangerous as regards separation of placenta. If performed in the 34th week recurrence was likely but once the child was turned with ease, it was seldom difficult to repeat the operation. Berkeley, Bonney and MacLeod (1938) would prefer to perform external version by or before the 36th week, more specially in primiparæ. It was not always possible to turn the child and never if legs were extended. Mudaliar (1938) laid down the 36th week as the best time for external version. Abercrombie (1939) was of the opinion that the external version must be performed by the 32nd week. At that time it seldom failed, was free from risk, anæsthesia was not required and relapse was uncommon. All breech presentation should be eliminated by the 32nd week so that many unpleasant symptoms might be relieved, risk of premature labour lessened, fœtal mortality diminished and number of cæsarian section performed on primiparæ diminished. Macafee and McClure (1937) presenting a study of 349 breech cases advocated external version in primiparæ as sooon as it was discovered after the 30th week and in multiparæ, not later than the 34th. Patients were re-examined. On several occasions, they found it necessary in multiparæ to correct the presentation again. Aleck Bourne and Williams (1939) observed that it was essential to recognise breech in the 32nd week; prior to this, it was hardly necessary to trouble about the presentation. It was customary not to do version on a full breech until the 36th week, but breech with extended legs must not be turned earlier than the 34th week, since version in these cases was much more difficult. Referring to our article, they remarked that in the last few years there appeared to be a tendency to do version earlier than at the above time. By doing version early, actual performance was facilitated but since version even gently performed, carried risks, the performance of any unnecessary version was open to criticism.

Risk in external version operation. Gibbard (1927) showed by statistics that the risks mentioned were exaggerated. Abercrombie (1939) saw no risk in the operation. Macafee and McClure (1937) found no risk in external version performed either once or repeated. Berkeley, Bonney and MacLeod (1938), Bourne and Williams (1939) and Danforth and Galloway (1938) still speak of the complications like hæmorrhage due to separation of the placenta, induction of premature labour, early rupture of the membranes, prolapse and tightening of the chord round the child's neck with great seriousness. Mudaliar (1938) mentioned the possible dangers and summarized that the general impression that an external version was easy and would as a matter of course, succeed in converting a breech into vertex presentation was not borne out by actual experience and that there were certain dangers and difficulties associated with these manipulations.

Prematurity. Breech being the cause of increased prematurity has not been referred to in any of the articles reviewed by us, except Abercrombie, quoted earlier in this article, passingly remarked that elimination of breech will reduce premature labour.

Some of the above findings were not in agreement with those of ours made as a result of our last series of 1936.

To meet these conflicting findings by other obstetricians, we decided to undertake a further study of the subject. In this article, therefore, we present a review of 1,066 cases confined since after the last series was published and which were under our care and observation. The patients came under our supervision usually from the 26th week onwards. All cases diagnosed as breech presentation during the antenatal period were attempted to be turned to vertex by external version except those of twins, placenta prævia, hydramnios and such other complications. All such cases are excluded from the review.

TABLE I

Incidence

Total No. Confinements reviewed	Breech diagnosed ante-natal	Vertex turned naturally	Breech confined
1,066	95 (8·81%)	36 (37·9%)	12 (1·12%)

TABLE II

	Breech diagnosed ante-natal	Natural Version	External Version	No treatment
Primi-paræ ..	18	8	8	2
Multi-paræ ..	77	28	42	7
Total ..	95	36	50	9

Natural version in 37·9 per cent; nature failed to correct presentation in 62·1 per cent.

INCIDENCE

Breech presentation during pregnancy was found in 95 cases, of these 36 turned to vertex naturally. The remaining 59 continued as breech. Attempt to convert to vertex was not made in 9 cases while 50 cases of breech were treated by external version. In 3 of them attempts at external version failed. Thus there were only 12 cases confined as breech in the whole series of 1,066 deliveries, giving an incidence of 1·12 per cent of breech labours.

If the nine cases in which we did not get a chance to do external version were excluded the incidence would be 0·28 per cent. Mudaliar (1938) records the incidence at the Government Hospital, Madras, as 2·85 per cent. Macafee and McClure (1937) gave the incidence as 6·03 per cent in hospital cases and 2·5 per cent in private cases. Danforth and Galloway (1938) put it at 3·34 per cent. Mohler (1938) found the incidence of 4·7 per cent.

TABLE III.

Nature of Deliveries
(In all 95 cases)

Vertex		Breech		In cases with no treatment. Vertex	Breech
Primi-paræ	14	4	Primi-paræ	*nil*	2
Multi-paræ	69	8	Multi-paræ	„	7
Total ..	83	12	Total . .	„	9

TABLE IV.

Maturity, prematurity and mortality in all cases.

MATURE

83

	Primi-paræ (15 cases) Vertex	Breech	Multi-paræ (68 cases) Vertex	Breech
Living ..	11	3	63	3
Still born	1	0	1	1
Dead ..	0	1	1	0

PREMATURE

12

	Primi-paræ (3 cases) Vertex	Breech	Multi-paræ (9 cases) Vertex	Breech
Living ..	1	0	5	3
Still Born	1	1	0	1
Dead ..	0	0	0	0

Total incidence of prematurity 12·65 per cent. (If 9 cases excluded 8·14 per cent).

Total incidence of fœtal mortality ..	8·42 per cent.
Incidence of fœtal mortality in the mature ..	6·02 „
Incidence of fœtal mortality in the premature	25·0 „

TABLE V.

Fœtal mortality, prematurity and mortality in cases treated with external version, 50 cases in all.

MATURE

48

	Primi-paræ (8 cases) Vertex	Breech	Multi-paræ (40 cases) Vertex	Breech
Living ..	6	2	38	1
Still born	0	0	1	0
Dead ..	0	1	0	0

PREMATURE

2

	Primi-paræ (0 cases) Vertex	Breech	Multi-paræ (2 cases) Vertex	Breech
Living ..	0	0	2	0
Still born	0	0	0	0
Dead ..	0	0	0	0

Incidence of prematurity .. .. 4 per cent.
Incidence of fœtal mortality .. .. 4 per cent.

PREMATURITY

As in our previous study we have taken children weighing 5 lbs. and above as mature and those below 5 lbs. as premature. This method has been found to be more reliable than calculating the age of the fœtus from the date of the last menstruation period. Working on this standard, the incidence of prematurity in our series of 95 cases was 12·63 per cent; 83 mature and 12 premature. But when 9 cases of breech non-treated were excluded from consideration the percentage fell to 8·14 per cent. In the 50 cases in which external version was performed, prematurity was only 4 per cent. These results have been better than those of our last series. The figures stand out in glaring contrast to the view held universally that prematurity was the cause of breech deliveries. On the contrary, they support our belief and observation that breech presentation has been the cause of preponderence of prematurity in babies born of breech labours. If the breech presentation was eliminated *paripasu* prematurity would decrease.

FOETAL MORTALITY

Macafee and McClure (1937) in their study of 349 breech cases found the incidence of gross fœtal

mortality 33·8 per cent and corrected rate, eliminating prematurity as well, 6·1 per cent. Erbsloh (1939) analysing 400 breech deliveries in a hospital got gross mortality of 9·8 per cent and 6·3 per cent when corrected for prematurity. Mohler (1938), D'Esopo (1937), Isadore, Siegal and McNally (1939) gave the figures varying from 26 to 28 per cent as gross and 5·5 to 12·1 per cent corrected after deducting prematurely born babies.

Our figures showed that there were 6 still births and 2 deaths within 10 days of birth, giving the gross fœtal mortality of 8·42 per cent and if the nine non-treated breech were excluded, the figure will fall to 5·8 per cent. Prematures have been included in all the calculations. Fœtal mortality amongst the mature was 6·02 per cent (4 still births and 1 death), while in the prematures it was 25 per cent with 3 still births. There was 4 per cent of fœtal mortality in 50 cases treated with external version.

The average weight of a mature baby was 6 lbs. 8 ozs. and that of the premature was 4 lbs. 3 ozs. The average weight in still born was 5 lbs. 3 ozs.

Maternal mortality was nill.

TABLE VI

Results of External Version.

	Total versions performed	Attempted once	Attempted twice.	Successful.	Unsuccessful.
Primiparæ ..	8	8	0	6	2
Multiparæ ..	42	36	6	41	1
Total ..	50	44	6	47	3

TABLE VII

Results of external versions at various weeks of pregnancy.

Attempted once ..	Before 28th,	28,	29,	30,	31,	32,	33,	34,	35,	36,	37,	38,
Multiparæ (36)	2	2	..	1	..	..	..	..	2	1	..	..
Primiparæ (8)	4	5	3	7	1	7	..	5	1	1	1	1
Total ..	6	7	3	8	1	7	..	5	3	2	1	1

Both in 35th week failed in primiparæ.
One in 34th week failed in multiparæ.

Attempted twice	6 cases	All of them in multiparæ
	1st in 27th 28 27 28 27 29th week.	
	2nd in 31st 31 31 32 30 31st week	

Versions attempted	Total No.	Attempted once	Attempted twice	Successful	Unsuccessful
Before 30th week	22	16	6	22	..
Betweeen 30th & 32nd week	21	21 (15+6)	..	21	..
After 32nd week	12	12	..	9	3

In our last series we had the patients come under our observation from 28th to 32nd week. They were kept under observation for 4 weeks, and external version was performed between 33rd and 36th week. Our impression was that 2 weeks earlier than this had an advantage in the case with which manipulations were carried out particularly in primiparæ.

In the present study, we had the patients come under our observation from the 26th week onwards. Whenever breech was noticed attempts were made to correct by external version without anæsthesia from the 28th week onwards.

There were 59 cases (62·1 per cent) in which nature failed to alter the presentation and they continued as breech. Of these 9 were not treated, leaving 50 who received the treatment by external version. Attempt at external version was made in 22 cases before the 30th week. 6 of these (27·2 per cent) reverted to breech later and needed a second attempt. All of them were multiparæ. All the 22 were successful versions. 21 (including 6 cases that reverted to breech after version) were treated between the 30th and 32nd week. In all of them the first attempt was successful. After the 32nd week, 12 got treatment. All of them were attempted once, 9 were successful while attempt to change the presentation failed in 3, 2 of whom were in primiparæ and attempted in the 35th week, while one was in multiparæ attempted in the 34th week.

Our impression born out of our previous study is well strengthened by the results in the present one. We, therefore, recommend that the period between the 30th and 32nd week as the best for attempting external version.

Some of the cases, 22·2 per cent of those attempted before the 30th week, were likely to revert to breech needing a second attempt but the 2nd attempt was easy and entailed no damages. External version performed later than the 32nd or 33rd were likely to have failures which increased as weeks passed. In our series 25 per cent of cases attempted after the 32nd week could not be converted.

Our observations are supported by those of Williamson, Moir, D'Esopo, Danforth and Galloway, Abercrombie and Macafee and McClure.

COMPLICATIONS

No complications like the hæmorrhage from separation of the placenta, induction of premature labour, rupture of membranes and prolapse and tightening of the chord round the child's neck were encountered either in the present study or the previous one. On

the contrary, cases with extended breech could be turned to vertex without much difficulty if attempted between the 30th and 32nd week. These complications were more likely to be met with if external version was delayed till the later weeks.

Details of 9 cases not treated by external version:— Of the 9 cases who were not treated 2 were primi- and 7 multiparæ. One of the primiparæ did not report till she was in labour and confined prematurely of a still born child of 2 lbs. 15 ozs. The other refused to be treated by external version and delivered of a mature living child of 6 lbs. 8 ozs.

Of the 7 multiparæ, 4 failed to report and were in labour when seen again. Of these 2 were premature and one was a mature still born. One of the remaining three had a history of a previous prolonged vertex labour with intracranial injury to the child and though there was no disproportion, the breech was left alone. She confined of a premature living child. One had antenatal death of the fœtus when seen and was therefore allowed to take any position. She had breech presentation and premature labour. The 3rd one was a stout patient with very irritable uterus and any attempt at manipulation sent the uterus in spasmodic contractions. She was thus left alone, as the use of anæsthesia we have so far avoided.

From the 50 cases treated by external version, we failed in 3 to change the position. One was a primipara of 25 years, considered elderly in India. The attempt was made too late *i.e.,* in the 35th week and even though the child born was only of 5 lbs. 5 ozs. we could not succeed in converting it to vertex. The second was also a primipara of 20 years, came under observation too late. Version attempted in the 35th week failed. She confined under anæsthesia, as incomplete breech with one leg extended, of a child weighing 6 lbs. 7 ozs. who developed jaundice and died on the 7th day. The 3rd was a 6-para, came under observation in the 34th week, had a big child of 8 lbs. 15 ozs. Attempt to convert the position was made but failed. At the time of labour, she had a prolapse cord and obstetric shock.

Conclusion

(1) A series of 1,066 consecutive confinements has been reviewed.

(2) Results of 95 cases of them in which breech presentation was diagnosed antenatal and 50 of whom were treated by external version have been described.

(3) The best time for performing external version has been found to be between the 30th and 32nd week.

(4) There has been a considerable fall in percentage of premature children and fœtal mortality as a result of external version.

(5) Our earlier impression that breech presentation itself was the cause of prematurity in the child was strengthened.

(6) The operation was fairly safe and easy. The fear of complications has been unnecessarily exaggerated.*

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* Paper read before the Scientific Section of the XVII All-India Medical Conference, 1940, at Vizagapatam.

BRONCHIECTASIS—A PRELIMINARY NOTE

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Bronchiectasis has been well defined as a permanent dilatation, diffuse or localised, of the bronchi. The word 'permanent' may, however, be profitably replaced by 'permanent or temporary' in view of the important findings of Jennings (1937), and Lee Lander & Davidson (1938a) to be described later.

Historical

Andrus (1824) and the great Lænnec (1826) were the first to describe the condition on the basis of

their clinical and post-mortem experiences. The latter's clinical description has become classical—the picture of a very ill man with constant cough accompanied with enormous amount of foul smelling sputum, hectic temperature and emaciation sooner or later ending in much-longed-for death.

For a hundred years—more or less—no advances in our knowledge of this disease took place. Indeed the vast majority of our text book authors even now give only this picture with only rare modifications—Allbutt (1909), Sajous (1924), Tice (1925), Osler & McCræ (1927), Norris & Landis (1927), Strumpell & Seyfarth (1929), Connybeare (1936), Poulton (1936), and Young & Beaumont (1937).

The next advance in our knowledge, however, was made by Sicard & Forrestier (1922) when they introduced lipiodol, a radiopaque oil containing iodine, into the bronchi, thus permitting the visualisation of the bronchial dilatations.

Soon after, Benzancon (1924)—quoted by Wall & Hoyle (1933)—described the 'dry' variety, one of whose important manifestations was recurrent hæmoptysis—'Forme Seche Hemoptoique'.

Recently considerable advances in our knowledge have taken place due to the more frequent use of the bronchoscope and the study of lobectomised pieces of lungs.

Aetiology & Pathogenesis

The main factors commonly recognised as producing the acquired variety of ectasia are:—(1) Damage to the broncial wall by inflammation—essential factor; (2) obstruction of the bronchus by a foreign body, new-growth or stricture of bronchi with inspiratory dilatation of bronchi; (3) constriction of fibrous tissue resulting from fibrosis or chronic pneumonitis; (4) pressure of retained secretions.

These views, more or less, have been with us for over a century and were based chiefly on postmortem appearances and latterly on operative material.

Recently, following the suggestions of Findlay (1935) and Jennings (1937), Lee Lander & Davidson (1938) have propounded the theory of atelectasis as forming the almost invariable antecedent of bronchial dilatation. They found a reversible bronchial dilation in all cases of lung collapse; in such cases a marked increase in the negative intrapleural pressure takes place—Habliston (1928), quoted by Jennings (1937), once found the pressure as high as minus 432 m.m. of water—and so the bronchi get dilated in an attempt to lower the degree of negative pressure; this has been shown by lipiodol skiagraphy in man and experimentally in the cat.

This is a revolutionary view and is of particular importance in that it forms an important basis in the prophylaxis and treatment of early cases as will be mentioned later. This view has so far attracted very little attention, but appears very attractive and logical. One personally feels that, in the not distant future, this will be the accepted view and would radically alter the prognosis—which used to be uniformly hopeless—and the medical treatment of this malady. That inflamation followed by fibrosis plays an important part cannot, however, be denied.

Radiologically the dilatation may be cylindrical, fusiform, beaded, saccular or mixed.

The bases are affected much more commonly—particularly the left lower lobe (13 out of 21 in my series) for some not-very-well-understood reason; the apices are only rarely affected.

The congenital variety is very rare and has recently been described in this country by Ukil (1939), and also Carruthers (1940) with report of a case. The cause is either a developmental abnormality with the budding off of a piece of lung tissue or atelectasis. I have so far not come across any case of this variety. Sauerbruck (1934), quoted by Carruthers, thinks that 80% of bronchiectasis in children is congenital in origin; this appears highly improbable.

Age. This is a very important factor and much difference of opinion exists in this connection. Thus Ukil (1939) in a valuable paper found only 22 cases out of 160 below the age of 20 years.

Authors, like Strumpell (1930) and Meakins (1938), think it not uncommon in children, Allbutt (1909) gives the figure as 15 per cent below 15 years, while Young & Beaumont (1937), Punch and Knott (1936) and others think that it is very rare in children; on the other hand, Wall & Hoyle (1933) & Moll (1932) find it common in childhood. In my very limited experience of 21 cases, in the majorty of which lipiodol skiagraphy has not yet been done, because funds for that purpose have only recently been available, 14 cases were below 15 years, and, of these, 11 were below 10 years of age. The youngest case was a child of 2 years. The above expressed opinion is so far mostly

based on clinical criteria, but I hope to prove it later on when I have done more lipiodol skiagraphies.

I feel that this is a very important point and that many cases in childhood are wrongly diagnosed and treated as such.

Frequency. As a student 12 years back one's impression was that this was a very rare disease, and this idea was in no way altered later on result of a study of the various text books and journals. This view is, however, steadily losing ground and, as a matter of fact, Moll (1932) quotes Ochsner (1930) who says that bronchiectasis is the commonest pulmonary disease—even commoner than pulmonary tuberculosis. This is an extreme view, but many chest physicians are agreed that this disease is far commoner than has been supposed so far, the reason being that only the most advanced cases were diagnosed as such due to faulty text book descriptions. Thus Tice (1925) practically ignores the condition and most of the text-books only describe the advanced variety with its large amounts of foul sputum etc. It is high time that the various text-book authors radically altered their descriptions, unless this is done, the cases will be diagnosed as chronic bronchitis and allowed to progress to the incurable end. Last year, 10 post-graduate students were shown a typical early case—confirmed by lipiodol —without fever and little expectoration, and without exception the diagnosis given was that of chronic bronchitis. If, however, early diagnosis is made—and this is possible clinically—many early cases could probably be cured, or at any rate, their lives would be made bearable and considerably prolonged.

In 8 months, I have been able to collect 21 cases and I have no doubt that many cases were missed in the earlier stages of this enquiry.

Season. The large majority of cases came in the winter, because of exacerbation of their symptoms—in common with other respiratory affections.

Predisposing causes. The most important is broncho-pneumonia, particularly in children, following whooping cough, measles, influenza and small pox. As is well known, broncho-pneumonia is always associated with patchy atelectasis and the resolution is often incomplete leaving behind a fibrosis of the affected parts. Other causes are poorly resolved lobar pneumonia, chronic bronchitis, aspiration of foreign body, neoplasm or aneurysm producing collapse, chronic empyema or chronic abscess of the lung, fibroid tuberculosis and syphilis of the lungs.

Ukil (1939) says that of 106 cases of bronchiectasis 48 were preceded by lobar pneumonia and only 17 after influenza, whooping cough and measles. This is strongly at variance with my own findings, though my total number is much smaller than his; in my list apparently almost all cases in children follwed broncho-pneumonia after whooping cough, measles or influenza. My own findings are supported by those of most other workers in this field.

Economic factors are apparently important, in that it appeared to me to be much commoner in the poorer classes.

Symptoms and Signs

A number of well-defined clinical types are found. A beautiful description of the natural course and history of the disease is given by Amberson (1936).

1. *In children.* In them the picture is very different from that found in adults.

The commonest history is that of recurrent attacks of broncho-pneumonia, while, in between, the child is sickly and always coughing. If this simple point is well-grasped and its significance properly assessed, we can go a long way towards the necessary and highly desirable early diagnosis of bronchiectasis, because the majority of cases with such a history have been found by me to have bronchiectasis. In most of my cases in children such a history was obtainable.

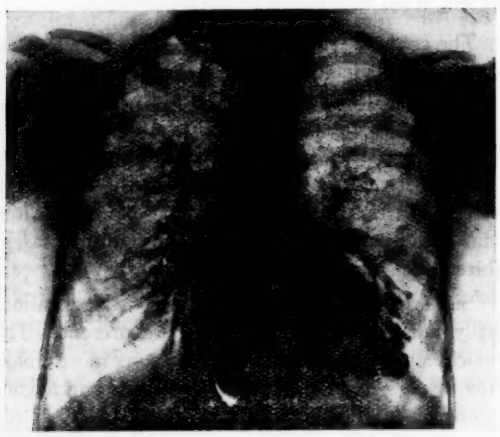
Signs in such cases are equivocal. Respiration is usually hurried when exacerbation is present. There is much cough but little expectoration as most children below 8 years of age swallow it. Tonsils and adenoids are enlarged and septic nasal sinus trouble is often observed. Clubbing may or may not be there. Apex beat and trachea may be pulled to the affected side, if the disease is unilateral. The chest is usually barrel shaped, percussion may or may not show patchy areas of impaired note, while auscultation give changeable signs depending on the fullness or otherwise of the dilated bronchi.

If empty, harsh vesicular, bronchi vesicular or even bronchial sounds with persistent medium or coarse crackling crepitations are heard; if the dilatations are full, there is deficient air entry with coarse rales. Sometimes they are so coarse and numerous as to completely mask the character of the breath sounds. In

such cases, all the signs of broncho-pneumonia may be there, yet there may be no fever and very little toxæmia.

The sputum in such cases should always be repeatedly examined to exclude tuberculosis. A simple method is to tickle the throat after a fit of coughing, the child at once vomits and the vomitus is found to be full of sputum, which is then examined.

Case 1. Dr. N's son—aged 2 years. Seen June, 1939; had measles last winter, and since then he has had 7 attacks of broncho-pneumonia with high fever. Clubbing present, patchy areas of dullness on both sides near bases with broncho-vesicular breath sounds and medium crackling crepitations both before and after coughing. Seen a month later, the same signs were present. Sputum persistently negative for T. B. and straight x-ray showed patchy areas of increased opacity; Lipiodol test was not done. Postural treatment was started along with general treatment and the child seen one year later was much better and the signs had almost completely cleared up. He has had no subsequent attacks of broncho-pneumonia.



HAMID—MANY SACCULES SEEN AT THE LEFT BASE.

Case 2. Hamid—boy aged 4½ years. 1½ years back had whooping cough followed by broncho-pneumonia and was in hospital for one month. Since then, with almost monotonuous regularity he suffers from attacks of broncho-pneumonia. Seen in September, 1940. Clubbing present, trachea and apex beat pulled to the left side, left base showed marked impairment of note with bronchial breathing and course crackling crepitations. The moment he was turned upside down, he started coughing and brought out about one ounce of purulent sputum negative for T.B. repeatedly. Has improved since lipiodol test showed saccular bronchiectasis of left base. No subsequent attacks of broncho-pneumonia throughout this rather severe winter.

2. *In adults.* I. Bronchiectasis sicca. The complaint is of occasional fits of cough without expectoration. The diagnosis is made by careful investigation for the cause of cough and emerges as the so-called 'bronchiectasis sicca'. Signs are very few. Unilateral slight impairment of note at one base with deficient air entry, or harsh breath sounds with fine or medium crackling crepitations which persist or appear only after coughing—may be the only signs. If such a case does not clear up in a few days with the usual treatment, bronchiectasis should always be suspected and lipiodol examination should be done. In the majority of cases, a lipiodol examination is impossible for economic reasons and so I would strongly suggest that in such cases, treatment should be started on lines to be given later. Care must be taken to rigorously exclude tuberculosis by repeated sputum examinations and straight skiagraphy if necessary.

At the risk of repetition, I should particularly like to stress before you the importance of recognising this variety—which is the commonest type in adults. The usual label in these cases is chronic bronchitis, or suspected tuberculosis of the lungs, and many such cases are sent to sanatoria. The real difficulty arises when signs are present at one apex. These are the cases which are usually sent to sanatoria. I have had 2 such cases.

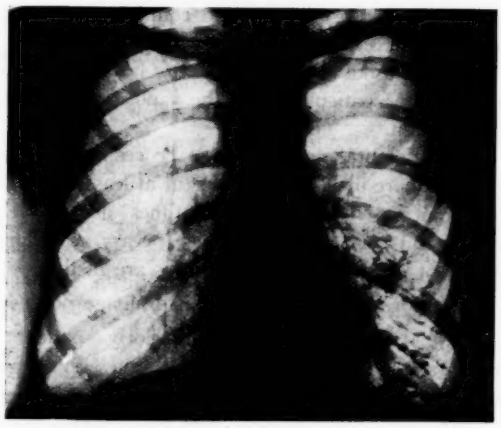
Case 1. An elderly man of 64 who had spent 2 years at a sanatorium—his sputum was never found positive, though it was quite profuse. Bronchial breathing with crackling crepitations at left apex.

Case 2. A lady of 28 with cough and occasional fever for 4 years and extensive signs at right apex and both bases. There was much sputum which was always negative for T. B. Unfortunately neither was willing to undergo the lipiodol examination and so the diagnosis was not confirmed. Usually no clubbing or alteration of the position of the apex beat or trachea is noticeable in the apical variety.

II. Recurrent hæmoptysis variety. In these cases, the only symptom is recurrent attacks of hæmoptysis and thus they are diagnosed as suffering from tuberculosis.

As mentioned previously, McGibbon & Baker Bates (1937) quote Wintzen (1936) who found that one-third of 869 cases coming to his sanatorium for hæmoptysis were non-tubercular. This variety was first described by Bezancon (1924) and later Wall & Hoyle (1933) diagnosed 5 cases in 2 years as of non-tubercular hæmoptysis due to bronchiectasis.

Case 1. S.A.—25 years, clerk. Pneumonia 4 years back. Frequent attacks of cough with slight expectoration. 2 attacks of hæmoptysis. Attended Tub. O.P.D. for 8 months without benefit. Came to Medical O.P.D. on 5th December, 1939, with

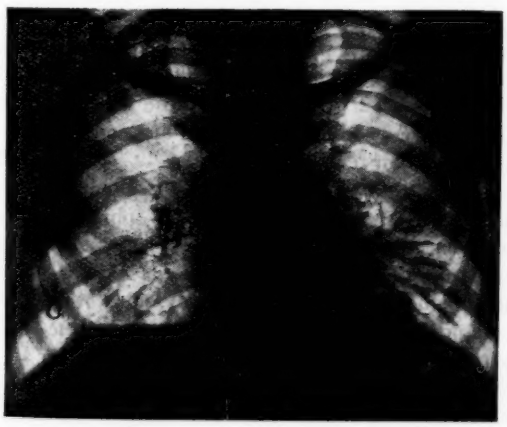


S.A.—LARGE NO. OF SACCULES SBEN ON LEFT SIDE.

trachea and apex beat pulled to left side, no clubbing, impaired note left midzone and harsh broncho-vasicular breath sounds with persistent medium and coarse crackling crepitations persisting after cough. Diagnosed provisionally as bronchiectasis and this was confirmed by lipiodol test 8 months later. Has had 2 hæmoptyses since then. Sputum always negative.

III. Cases of classical variety with moderate or severe symptoms—so-called wet type.

There is no need to describe this variety, as all text book give it. In this, the cases are far advanced and nothing can be done for them. They die sooner or later.



S.L.—CYLINDRICAL VARIETY ON LEFT SIDE.

Case 1. S.L.—55 years, cobbler. Had pneumonia 5 years back. Since then constant cough with much foul expectoration (6 oz. daily). Sputum settles in 3 layers and negative for tubercle bacilli repeatedly. Clubbing marked, trachea pulled to left side and apex beat in ant. axillary line. Marked dullness left base with harsh respiration, expiration much prolonged, coarse crackling persistent crepitations. The diagnosis of bronchiectasis was confirmed by lipiodol test.

Attention is particularly drawn to the sign of deviation of trachea to the affected side in most unilateral cases. This important sign is seldom described or searched, yet it is a sign of the highest value when the apex beat cannot be palpated, as is not infrequently the case.

DIAGNOSIS

The important points have been stressed above. Early diagnosis is all important. Even when lipiodol examination is not possible, all children with history of recurrent attacks of broncho-pneumonia and all adults with recurrent spasmodic cough with or without sputum and all adults with recurrent hæmoptysis with no T.B. in sputum (repeated examinations) should be treated on the lines later laid down. A classical case offers no difficulties in diagnosis, though pulmonary tuberculosis should be kept in mind here also—because many such cases are secondary to tuberculosis. The apical variety of bronchiectasis presents special difficulty, but if repeated examinations of sputum—which is always profuse in these cases, though seldom foul—is negative the diagnosis is obviously apical bronchiectasis, even in the absence of lipiodol examination.

Lipiodol examination should always be done if possible. The nasal route of Forrestier—quoted by Punch & Knott (1936) can be safely used if patients object to the intratracheal route *via* the crico-thyroid membrane. The latter route is the only one practicable in children and is preferably done under gas and oxygen anæsthesia.

Other conditions to be kept in mind in the differential diagnosis are putrid bronchitis, chronic abscess lung, and syphilis of the lung.

The point I would again like to emphasise is that the above clinical picture are so clear cut, that a provisional diagnosis of bronchiectasis should be made, if lipiodol examination is not possible for economic reasons, and patients treated accordingly.

PROGNOSIS

Almost without exception, the authorities are agreed that it is bad, so much so that a very severe operation is advised by many as the only treatment.

Thus Roles & Todd (1933) traced the after histories of 14 cases of so-called 'dry bronchiectasis' and found the majority becoming 'septic' in a few years. The same was the view of Findlay & Graham (1931) in children.

This view was undoubtedly correct 10 or even 5 years back and so surgical interference was often advised, but now with the changed criteria of early diagnosis, this pessimistic out-look is not justifiable. Thus, Punch & Knott (1936) found many cases which had remained stationary for years. If Lee Lander & Davidson's theory is correct, then there is no doubt that early bronchiectasis is a definitely reversible process, provided early diagnosis is done and suitable treatment carried out. Most of my cases have been under treatment for only a short while, and so it is not possible for me to give any accurate figures, but their symptoms have been much relieved. I hope to publish their follow-up figures later on.

Treatment

1. *Prophylaxis.* This is all important. In these days when preventive medicine has taken such an important and successful place in the social life of all civilised nations, it is surprising that almost all authorities are more or less silent on the subject of prophylasis of bronchiectasis. Almost the only exceptions I have come across are Beaumont (1938), and Lee Lander & Davidson (1938) and Young & Beaumont (1937). They advocate breathing exercises and autovaccines and, if possible, change of climate in all cases of delayed resolution in lobar pneumonia and broncho-pneumonia and chronic bronchitis.

The autovaccines, however, have not proved succesful and climatic change is beyond the means of most. But deep breathing exercises cost nothing, and should always be enforced in all such cases by all physicians.

In addition, I would strongly advocate the employment of the postural method of treatment in every case who is recovering from an attack of broncho-pneumonia or lobar-pneumonia with delayed resolution.

If these two methods, postural as well as deep breathing are vigorously enforced in all such cases, particularly keeping in mind the early diagnostic criteria, I have no doubt that our ideas as regards prognosis in bronchiectasis will undergo a radical change; and, in addition, we shall be able to prevent the development of bronchiectasis and thus save many lives.

2. *Medical.* (*a*) General treatment is very important. Good food, fresh air and sunlight, proper rest and tonics are essential. The nasal sinuses should be carefully examined and any sepsis in them tackled—as the majority of cases show a coincident infection of these. (*b*) Keeping the cavities drained—

(*i*) Creosote baths. Creosote is heated in a sealed room and the patient inhales the vapour which excites severe cough.

(*ii*) Postural drainage. To be really effective, it has to be more or less continuous or at least for 2 hours each time and repeated 2 or 3 times daily. Nelson (1934) finds that the posture has to vary according to the site of ectasia. Thus, if cavities are in the:—

I. Upper zone—no artificial drainage needed.

II. Mid. zone. (*a*) If anteriorly—patient lies flat on back. (*b*) If medially—flat on side with the affected side uppermost. (*c*) If posteriorly—flat on face.

III. Lower zone, help of Nelson's bed is needed, failing, raise the foot end of bed to 9″—12″. This is fairly satisfactory. (*a*) If anteriorly—flat on back. (*b*) If medially—flat on side with the diseased side uppermost. (*c*) If posteriorly—flat on face.

For such careful localisation, lipiodol skiagraphy in two planes, anteroposterior and lateral is necessary. As this will be seldom practicable in our country, we shall have to rely mainly on our clinical findings and employ the various "postures" in turn and thus find which one produces maximum drainage. With some practice, it will not be found as difficult as it sounds.

In the case of young children with basal bronchiectasis, with some tact, they can be trained to remain upside down for quite a long while in the arms of their parent. I have a patient aged 4½ years who insists on his father keeping him upside down for a few minutes every 2 or 3 hours, because this posture induces severe cough and brings out a lot of sputum and thus gives him temporary relief.

3. *Surgical.* (*a*) Attempts to obliterate the dilatations by artificial pneumothorax, phrenic evulsion and even thoracoplasty have been almost completely given up. The first one because it seldom succeeds due to adhesions, the second and the third because they serve no useful purpose and may even harm the patient by retarding drainage.

(*b*) In the last 10 years or so, lobectomy and even pneumonectomy have been increasingly practised in Europe and America—with brilliant results in a few

hands. The average immediate post-operative mortality in the best hands—Tudor-Edwards (1939) and others—is 15 to 20 per cent though in the early age periods, it is reported to be practically nil.

In this connection, we must remember two points —firstly, provided proper prophylaxis is rigorously carried out and with the early diagnostic criteria, postural and other medical treatments are properly done, most cases need never reach a stage when operation is the only advice that can be tendered.

Secondly, it is very difficult for me to imagine that in our country where most people are terribly frightened of even minor operations, they would agree to undergo such a major one, specially if they are told, as they must be, of the immediate operative risks.

Conclusions

1. Bronchiectasis is a common disease.
2. To diagnose the condition, our criteria must be radically altered.
3. Careful prophylaxis should be enforced in all such cases as described above.
4. Provided early diagnosis is made, medicinal treatment should be found effective in most such cases in the early stages.

Acknowledgments

My grateful thanks are due to Professor H. Sahai, for constant advice; to Prof. Burridge, Dean of the Faculty, for sanctioning money to enable me to buy lipiodol and x-ray plates; to Dr. R. Lal, Radiologist and his staff for x-raying my patients and to Messrs. Raptakoss Brett & Co. of Bombay, who supplied me with lipiodol at cost price.*

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NEPHRITIS: A CLINICAL STUDY

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An attempt is made to study nephritis from an analysis of 116 cases admitted in the medical wards of the King George Hospital, Vizagapatam, during the years of 1937, '38 and '39. Eighteen of the patients were admitted more than once in the course of three years. The longest period over which a case was followed was 4 years. The patient was admitted five times during that period and was in the hospital for fourteen months altogether. There were 27 deaths but only six bodies were available for autopsy.

Nomenclature

The simplest of classifications and one well-suited for bed-side diagnosis is the secretory classification. When there is œdema of the body with no cardio-vascular changes and no retention of products of nitrogenous metabolism the case is considered as one of *hydræmic type* of nephritis. The *azotæmic type* of case is one with no œdema, with evidence of cardio-vascular hypertrophy, raised blood pressure, and biochemically with evidence of retention of products of

nitrogenous metabolism. Those cases of nephritis which do not fall into either of the above groups are classified as cases of *mixed type*.

On the basis of the nature of the anatomical lesion in the kidney Aschoff classified nephritis as *degenerative, inflammatory* or *vascular*. For classifying the cases of this series Aschoff's classification slightly modified by Langdon-Brown is followed.

In classifying the cases of sub-acute glomerulo-tubular nephritis and chronic parenchymatous nephritis there was, however, a slight deviation. While Aschoff considers them as synonymous, various authorities (Baumont and Dodds, Grey, Van Slyke, Volhard and Fahr and others) consider them as different stages of nephritis. Baumont and Dodds consider the stage as sub-acute nephritis when "red-cells persist in the urine for more than two months after the onset of the acute attack." Grey concludes that it is a case of "long continued acute nephritis" as "irreversible changes in the kidney take place after more than four weeks of acute nephritis." Van Slyke takes it as a stage when "the patient may improve and become free from the symptoms of the disease (acute nephritis) but retains some albuminuria, hæmaturia or diminution in renal function, the disease becoming latent." Osler following the classification of Volhard and Fahr, groups a case under sub-acute nephritis when "the subjective symptoms of acute nephritis subside after about six weeks but albuminuria, hæmaturia and cylindruria persist."

Chronic parenchymatous nephritis of Aschoff's classification, on the other hand, corresponds to "chronic nephritis with œdema" of Baumont and Dodds, "nephrotic nephritis" of Volhard and Fahr and Grey and "active chronic stage of hæmorrhagic nephritis" of Van Slyke. It is accompanied by proteinuria, low plasma albumin and total protein content, high plasma fat and cholesterol content and tendency to œdema formation.

Investigations

Urine was examined invariably for albumin and the centrifugalised deposit was examined for blood cells and casts.

Among the biochemical investigations, blood-urea was estimated in most of the cases. In those cases which were going to uræmia, C. S. fluid urea was also estimated. Andrew-Hewitts reaction was done in all these cases with blood and C. S. fluid.

To ascertain the kidney function Van Slyke's urea-clearance test was undertaken. Maclean's urea-concentration test was done in addition to Van Slyke's urea-clearance test in only eight cases.

Blood-proteins were estimated in cases where albuminuria and œdema were persistent. Blood-cholesterol was also estimated in most of these cases.

Ophthalmoscopic examination was done in 34 cases.

I. Analysis of 116 Cases of Nephritis

1.	Acute glomerulo-tubular nephritis	18 cases
2.	Sub-acute glomerulo-tubular nephritis ..	15 „
3.	Chronic parenchymatous nephritis	30 „
4.	Chronic interstitial nephritis	35 „
5.	Non-renal hypertension or ischæmic nephritis ..	12 „
6.	Nephrosis	6 „
	Total ..	116 cases

II. Cases followed

1.	From acute nephritis to sub-acute nephritis ..	4 cases
2.	From sub-acute nephritis to chronic interstitial nephritis	2 „
3.	Admitted as chronic parenchymatous nephritis (more than once)	3 „
4.	From chronic parenchymatous nephritis to chronic interstitial nephritis	2 „
5.	Non-renal hypertension or ischæmic nephritis (admitted more than once)	4 „
6.	Admitted as chronic interstitial nephritis (more than once)	3 „
	Total ..	18 cases

III. Age Incidence

Age-groups	Acute	Sub-acute	Chro. Paren.	Chro. Interst.	Ischæmic	Nephrosis
Below 10 yrs.	6	—	—	—	—	—
11—20	5	4	9	2	—	3
21—30	3	4	11	6	4	3
31—40	3	6	7	11	1	—
41—50	1	—	2	13	5	—
Above 50 yrs.	—	1	1	3	2	—
Total	18	15	30	35	12	6

Blood-pressure

Blood pressure was recorded in all cases on the day of admission and later as the acute condition subsided. A study of the records shows that in acute nephritis the blood pressure was raised, the systolic pressure more than the diastolic. With diuresis and clearing up of the œdema the blood pressure came down to within normal limits. The highest blood pressure in a case of acute nephritis was 170/110 mm. of mercury, the lowest 110/30 and the average

130/90 mm. of mercury. Those cases which were followed later as subacute nephritis (4 cases), showed that during the course of fall of the blood pressure from the highest limits to within normal limits the diastolic pressure lagged behind the fall in the systolic pressure.

Blood pressure records in the case of chronic interstitial nephritis showed that the highest was 240/160 mm., the lowest 160/100 mm. and the average 190/130. This is in contrast to blood pressure in cases of non-renal hypertension (ischæmic nephritis) where the highest recorded blood pressure was 230/165, the lowest 185/130 and the average 220/160 mm.

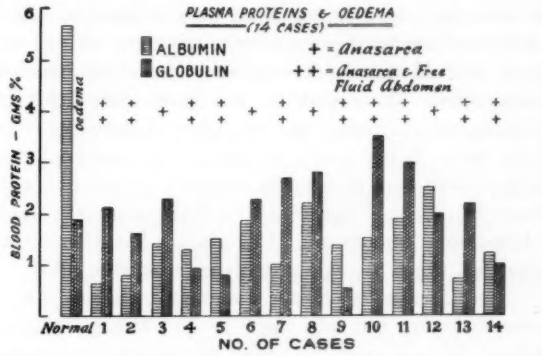
Blood-Proteins

Blood-proteins were estimated in 14 cases with persistent albuminuria and œdema persisting from 3 to 8 months. Eleven of them were cases of chronic parenchymatous nephritis, two of nephrosis and one of sub-acute nephritis.

Moore and Van Slyke have shown that "when the total protein content, normally averaging 7 per cent falls below 5·2 to 5·8 per cent or the albumin normally averaging 4·3 per cent falls below 2·3 to 2·7 per cent œdema is usually present." "The figure most closely connected with œdematous tendency appears to be the albumin, but as the globulin usually remains unaffected, the total proteins and the specific gravity which reflects the total proteins, as a rule both parallel the albumin show the same correlation with œdema." (Van Slyke *et al.*).

A study of the plasma proteins in this series show that in only two cases were the total proteins 5 per cent or slightly above (5·2 per cent). Four of the patients had below 3 per cent of proteins and the others between 3·5 per cent. When the total proteins were below 4 per cent not only was there generalized œdema but also free fluid in the abdomen as shown in 10 of the 14 cases. The albumin-globulin ratio (normal 3:1) was altered in all except one and in most of them reversed. In 7 of the 14 cases the globulin was definitely increased from the normal of about 1·9 gms. per cent to 2·2 to 3·6 per cent in contrast to Van Slyke's observation that "the globulin usually remains unaffected."

Case No. 88 is of interest in this connection. P. V. male, 22 years, admitted for œdema of the body and distended abdomen of 3 months' duration. The total proteins were 2·1 gms. per cent (albumin 1·4 per cent and blobulin 0·4 per cent) with albumin-globulin ratio unaffected. Abdomen was tapped thrice in the course of two months and a total of 42 pints of fluid removed. He was admitted 8 months later for "swelling of the body" with anæmia and no free fluid in the abdomen.



Plasma proteins were 5·5 per cent (al.—1·5 per cent, gl.—3·5 per cent) with a albumin-globulin ratio altered and globulin definitely increased. Two years later he was again admitted and died of chronic inerstitial nephritis and uræmia.

Plasma Fibrinogen

"Kollert and Starlinger have found that marked albuminuria is *invariably associated with increase in the fibrinogen* fraction of the blood protein, which they think is casually connected with albuminuria. Normally, the plasma contains less than 0·3 per cent of fibrinogen, while in chronic nephrosis, they found as much as 1·19 per cent"—Fishberg.

The analysis of the fourteen cases shows the following: in four cases the fibrinogen content of the plasma was within normal limits—below 0·3 per cent; in four cases it was slightly raised, not exceeding 0·4 per cent; in the remaining six cases it was definitely raised and in one it was as high as 0·8 per cent or about thrice the normal fibronogen content.

Blood Urea and Kidney Function

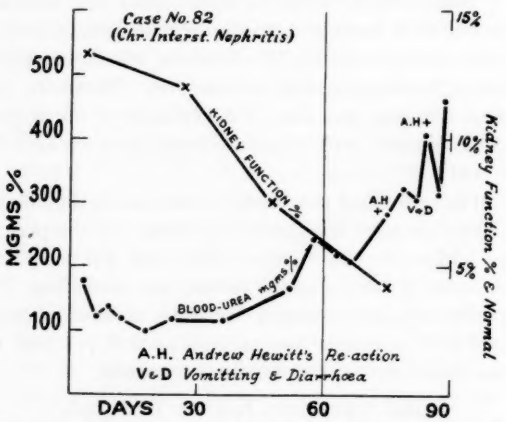
Blood urea was estimated in 84 of the cases. The lowest recorded blood-urea content was 16 mgm. per cent in a case of chronic parenchymatous nephritis and the highest was 463 mgm. per cent in a case of chronic interstitial nephritis terminating in uræmia. In three cases of chronic interstitial nephritis high blood urea figures (170 to 210 mgm. per cent) were recorded without clinical manifestation of uræmia. Six to ten days later uræmia, however, was clinically evident—cases of *latent uræmia*. Two of them died in the hospital and one was discharged on request.

Van Slyke's urea clearance test was undertaken in 69 cases. In 18 of them with blood urea 20-40 mgm.

within normal limits; kidney function was between 20-40 per cent of normal. This is a point which is stressed by Peters and Van Slyke to demonstrate the superiority of this test over a simple blood urea estimation. Also as pointed out by them in none of the cases with blood-urea over 55 mgm. per cent was the kidney function unimpaired. It is said by the same authority that uræmia is invariably present when kidney function falls below 5 per cent. In two of the cases of this series there was no clinical evidence of uræmia with kidney function 4 per cent and 5 per cent of normal (blood urea 55 mgm. and 150 mgm.). The first patient was discharged at request and the other absconded.

Of 15 cases of chronic interstitial nephritis where urea clearance test was done 11 had kidney function below 20 per cent. A case of chronic interstitial nephritis ending fatally in uræmia is of interest as urea clearance test was repeatedly done.

Case 82. N. R. Male, 20 years, admitted for slight œdema of the body and dimness of vision of left eye of 15 days' duration. He was admitted twice into the hospital with 3 days' interval and was in the hospital for about 3 months. Urea clearance test was done first at a month's interval and later fortnightly. With the gradual rise in the blood urea from 176 mgm. to 297 mgm. per cent the kidney function fell from 13·7 per cent to 4·9 per cent of normal (graph) when uræmia was clinically recorded. Blood urea went up rapidly as shown Andrew-Hewitss reaction was positive with a blood urea of 310 mgm.



Maclean's urea concentration test was done in addition to Van Slyke's urea clearance test on the next day in only eight cases.

Though normally not more than 120 c.c. of urine should be passed in the second hour in two of the eight cases the quantity of the second specimen of urine was 330 c.c. and 220 c.c. showing diuresis.

In one of the cases, No. 27, with blood urea 27 mgm. and kidney function as estimated by Van Slyke's urea clearance test was 84 per cent while Maclean's urea concentration test showed a concentration of only 0·65 per cent in the first specimen and 0·9 per cent in the second specimen, showing marked impairment of concentration power of the kidney. (In a normal person, the first specimen contains at least 1·5 per cent whilst the second should have a minimum concentration of 2 per cent—Maclean).

Fundus Examination

Fundus was examined in 34 cases of nephritis.

Acute nephritis—in eight of the cases examined, nothing abnormal was seen.

Sub-acute nephritis—Four of the cases were examined and in one retinitis proliferans was seen.

Chronic parenchymatous nephritis—Of the five cases, in one albuminuric neuro-retinitis was recorded. The patient died five weeks later.

Non-renal hypertension—In nine of the cases examined the following were the findings.

(*a*) Three of the cases were admitted twice within eight months. In one case there was albuminuric neuro-retinitis in both fundi at the time of first admission but only in the right five months later. In the second both fundi showed albuminuric neuro-retinitis in the first admission but had only "spots of absorbed retinitis" seven months later. The third had patches of retinal hæmorrhage during the first admission and died of uræmia two months later. (*b*) Of four other cases of non-renal hypertension where 'hypertensive retinopathy' was recorded three died within three months. (*c*) The remaining two cases showed "Vessels, especially arteries are contracted with slight exudate covering them."

Chronic interstitial nephritis—eight cases of chronic interstitial nephritis were examined. Two cases with uræmia had albuminuric neuro-retinitis and were discharged at request. In a third case with uræmia there was "no evidence of retinitis but a single flame shaped hæmorrhage" was seen. In a fourth case maculo-choroditis was recorded.

Complications and Concurrent Diseases

Nature of complications etc.	No. of cases	No. of deaths		
1. Heart failure.	11	4	Ischæm.	2
			Chr. interst.	2
2. Uræmia.	5	4	Ischæm.	1
			Chr. interst.	3
			Sub. acute.	1

Nature of complications etc.	No. of cases	No. of deaths	
3. Heart failure and uræmia.	11	7	Ischæm. 1 Chr. interst. 5 Chr. paren. 1
4. Tingling and numbness associated with nephritis.	3	1	Chr. paren. nephritis terminating in uræmia.
5. Amæbic dysentery.	3	—	
6. Fever with chills (No. M.P.)	2	—	
7. Diabetes mellitus.	1		Admitted twice within 11 months interval.

Heart failure and uræmia, either alone or together, may be taken as the commonest of complications of nephritis. The other diseases which were also present at the time of admission into the hospital are shown as concurrent diseases.

NEPHROSIS.

To differentiate a case of nephrosis, non-hæmorrhagic degenerative Bright's disease, from chronic parenchymatous nephritis is by no means easy. Both may present clinically, practically an identical picture. Van Slyke observes "the symptoms that have been used to distinguish the hæmorrhagic disease from pure nephrosis have been the presence of hypertension and nitrogen retention (Volhard and Fahr) and of hæmaturia (Addis). Microscopic hæmaturia usually constant but some-times intermittent, appears to be the most consistent single differential sign. After hæmaturia, hypertension appears to be the most valuable diagnostic sign."

In the present series of six cases recorded as nephrosis, two are males and four females. In two of the females the conditions appeared about two months after confinement. In the third the condition followed one month after administration of mercury. At the time of her admission she had bleeding gums, burning sensation in mouth and throat, puffy face and jaundice.

Clinical examination: None of these patients gave a previous history of similar complaint. All had massive œdema of the body and in two there was, in addition, free fluid in the abdomen. There was no cardio-vasculor hypertrophy in any one and B. P. was not raised.

Urine examination showed the following: Heavy albuminuria in all, microspically—fatty and hyaline casts. No R. B. C. on repeated examinations.

Blood chemistry: Langdon Brown puts it in a nut shell when he observes that nephrosis is a condition "where the kidney does not retain what it should excrete but excretes what it should retain."

Blood urea estimated in all the six cases was within normal limits. Kidney function estimated in four cases—not below 30 per cent. Blood protein estimated in two cases and found to be 2 grams and 3 grams per cent. B. M. R. estimated in one case only—39·5 per cent. Blood cholesterol was found to be over 300 mgm. in three cases estimated.

All cases improved with treatment with thyroid except mercurial one which terminated fatally.

Case No. 101. V. male, 20 yrs. Admitted for œdema all over body and distended abdomen of seven months' duration. No history of similar complaint previously. Heart—no hypertrophy. B. P. 122/78. Urine Albumin + +, 7 per cent; fatty casts + +; no R. B. C.

Blood chemistry: Blood-urea 39·0 mgm. per cent; kidney function 22·9 per cent of normal; blood proteins 2·8 gms. al.—0·69 gm., gl.—2·25 gm.; cholesterol 383 mgm.; B.M.R.—39·5 per cent.

Treatment with thyroid 2 grs. a day for fifteen days—œdema cleared up, albumin in urine came down to 0·6 per cent; B.M.R.—8 per cent.

Two eggs were added to his diet daily.

I have to express my thanks to Dr. B. Tirumalarao, F.R.C.S., D.L.O., Superintendent, K. G. Hospital, Vizagapatam, for affording me facilities to prepare this paper.

I am thankful to Dr. P. Kutumbiah, B.A., M.D., M.R.C.P., and K. N. Pisharty, M.D., D.T.M., M.R.C.P., Physicians, King George Hospital, Vizagapatam, for their valuable suggestions and helpful criticism, to Dr. C. Abbu, M.B.C.M., D.O.M.S., Ophthalmic Surgeon, for the Ophthalmascopic examination reports and to Dr. V. K. Narayana Menon, Professor of Biochemistry for the bio-chemistry reports.

My thanks also are due to Drs. C. K. Prasada Rao and G. V. Satyanarayanamurty for their suggestions.*

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THE DRUGS TECHNICAL ADVISORY BOARD

The Drugs Act, 1940, (Act No. XXIII of 1940, Government of India), though legislated in unseemly haste, was welcomed by us as a measure which, if properly applied and developed, may help to improve the condition of the drug industry in this country. India must be made self-contained in its supply of pure and efficacious drugs at a cheap rate commensurate with the purchasing power of her poor disease-stricken children.

The Drugs Act, 1940, received the assent of the Governor-General on the 10th April, 1940, and Chapters I and II of the Act came into force at once. Chapter II of the Act deals with (*i*) the Drugs Technical Advisory Board, (*ii*) the Central Drugs Laboratory and (*iii*) the Drugs Consultative Committee.

In order to give effect to Chapter III, which regulates the import of drugs, by the Central Government and Chapter IV which regulates the manufacture, sale and distribution of drugs, by the Provincial Governments, it is absolutely essential that the Central Government should have, immediately after the passing of the Act, constituted the Advisory Board. The Central and Provincial Drugs Control Laboratories can be brought into existence only after the Advisory Board has been fully constituted and has framed an uniform scheme and details regarding the 'functions', the 'procedures' and such other matters necessary or expedient to enable the said laboratories to carry out their functions, as envisaged under the Act. The Board is the only statutary body competent 'to advise the Central Government and the Provincial Governments on technical matters arising out of the administration of this Act, and to carry out the other functions assigned to it by this Act.'

Full twelve months have elapsed since the Act received the assent of the Governor-General. Yet the Central Government has not seen its way to constitute the Board. A few months ago, we were informed going ahead with its schemes of Central Drugs Laboratories and even selecting the directors and personnel of such laboratories. Different Provincial Governments are also setting up *ad hoc* committees for implementing the Drugs Act. We are also reliably informed that rules and regulations drafted by the Central Government have been circulated to certain Government officials of certain provinces but not to chambers of commerce or to the drugs trade, medical or other scientific associations.

Section 7(*1*) of the Act empowers the Central Government to constitute "the Drugs Consultative Committee" to advise the Central Government, the Provincial Governments and the Drugs Technical Advisory Board on any matter tending to secure uniformity throughout the Provinces in the administration of this Act.

The Hon'ble Sir Girja Shankar Bajpai, Member in charge of Education, Health and Lands, Government of India, during the debate on the Drugs Bill in the Central Legislative Assembly said—"But I gave the Committee (Select) an assurance, and I gave the House an assurance yesterday, that we propose to call together a meeting of the Central Advisory Board of Public Health for the purpose of trying all the powers of persuation of which we are capable, so that the provinces and the centre should act in conformity with each other and observe both chronological and administrative uniformity". He went on further, "And so far as the centre is concerned,—and the centre is concerned only with imported drugs,—I can supplement the assurance by saying that we shall see to it that, when our rules and regulations are framed, full weight is given to the views of representatives of the trade who can be brought together by the machinery of putting up committees of the Advisory Board for which provision is made in the Act itself. As regards the provinces it will only be possible for us to tell the Provincial Governments to do likewise, and I see no reason whatsoever why they should not follow in the footsteps of the Government of India in this respect."

We are yet to be informed whether Sir Girja Shankar is translating his assurances into actions in these respects. We are not aware whether the Central Government has actually constituted "the Drugs Consultative Committee", whether such a Committee if constituted, have met and deliberated; the formation of sub-committees as indicated above is out of question

through the news agencies that the Central Government is drafting rules and regulations under the Act, and is unless and until the present body—the Drugs Technical Advisory Board is constituted by the Central Government.

The rules and regulations to be framed under this Act will really constitute the Act itself. It seems to us clear that in the case of an Act with such technicalities as this, it is just as difficult for the Government and it is just as difficult for the highly scientific people who will constitute the Advisory Board to know the difficulties of the actual trader and we do think that as the latter is the person who is ultimately responsible, he should be consulted on every possible occasion and given as much opportunity as possible to make his suggestions.

We hope Sir Girja Shankar will constitute the Drugs Technical Advisory Board without further delay. The present world crisis can not be made responsible for this undue delay, as the present Act was passed by the Central Government after the onset of the present war as a 'non-controversial piece of legislation' and as the "Government have been animated by one desire and one desire only—and that is to protect the welfare of the 400 million" peoples of India.

In constituting the Board, Sir Girja Shankar should implement his promise which was made on the floor of the House during the debate on the Drugs Bill that "whereas originally we contemplated a majority of officials, now there will be a majority of non-officials on this Board."

The Board should be "constituted" immediately and a meeting should be called without further delay for constituting different sub-committees as contemplated in sub-section (*5*) of section 5 of the Act and for framing by-laws to regulate its own procedure and the conduct of all business to be transacted by it".

The Drugs Consultative Committee should be immediately formed and be asked to function as contemplated in section 7(*1*) of the Act to secure uniformity throughout the Provinces in the administration of the Drugs Act.

We hope very much that one of the sub-committees of the Board will in fact consist of members of indigenous manufacturers and importers of drugs to this country, so that they may advise the Technical Drugs Advisory Board on the difficulties which are likely to arise from carrying out the recommendations of the Board itself and can act as a permanent check to see that the rules and regulations framed under the Act are practicable from the point of view of the trade.

We should like to emphasise the fact that the Central and Provincial Drugs Laboratories must be formed according to the direction and guidance of the Drugs Technical Advisory Board. To organise the laboratories now and to appoint the personnel of the same and then place the accomplished facts before the Board for its consideration would be highly detrimental to the interests of the Drug Trade and Industry. Sub-clauses (*1*) & (*2*) of Clause 33 of the Act, actually contemplate the formation of provincial laboratories according to the direction of the Board. Such a procedure will help in bringing about uniformity in the working of such laboratories throughout the country. It is also desirable from this point of view that in matters of policy and working the Board should have co-ordinating influence over all.

Finally, we want to impress on Sir Girja Shankar, with all the emphasis at our command, the necessity of all the rules and regulations to be framed under the Act to be drafted at the first instance by the different technical sub-committees to be appointed by the Drugs Technical Advisory Board. All these drafted rules should then be discussed and thoroughly scrutinised by the Board and then may be published for the information of the different parties concerned with the Act before being enacted by the Government concerned.

NOTICE

The attention of the members of the Association is respectfully drawn to the notice on advertisement page v of this issue of the journal regarding the procedure to be adopted in case of non-receipt by them of any issue of the journal.

A. K. SEN,
Secretary, J. I. M.A.

A BRIEF SURVEY OF TUBERCULOSIS IN BENGAL

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The annual deaths from tuberculosis in Bengal are estimated at 90,000 or 17 per 10.000 of the population. The toll is the heaviest next to Malaria. Computing at ten times the above figure, at least one million people must be actually suffering from this fell disease.

There is an old belief that dies hard that tuberculosis cannot be cured, but with modern methods of treatment it has been shown to be curable. Results that have been obtained in hospitals and sanatoria in the West would have been thought impossible a few years ago. The statistics of the Jadabpur Tuberculosis Hospital show that excluding those patients who are admitted in an almost dying condition, about 70 per cent. are discharged as cured or greatly improved, and many of them go back to their usual avocations. Every person so cured or improved prevents the spread of infection to at least ten others.

The incidence of the disease is highest in Calcutta and its suburbs. It is also high in the Darjeeling area. But it has spread, and is rapidly spreading, in the mofussil districts also. It is time that special and serious attention were directed by the Government to the necessity of providing proper treatment for those who are suffering from this extremely infectious disease. Times are changing and the statistics show that sufferers come in large numbers to receive treatment under western methods. But the unfortunate position is that a vast majority of them can get no better attention than a few casual prescriptions at outdoor dispensaries. Not all Sadar hospitals, at the district headquarters, have any arrangement for tuberculosis patients: where there is some arrangement, the beds are perhaps only a part of the general infectious ward. Also the medical staff in these hospitals are not trained at any special hospital or clinic for this disease.

Excluding Calcutta, Darjeeling and Jadabpur, the situation in the hospitals in the mofussil districts may be summarised as below:

BURDWAN DIVISION:

There are 36 hospitals with 978 beds and of these only 4 hospitals have some arrangement for T. B. patients. The total number of beds in these four hospitals is 510 of which 10 are allotted for T. B. cases. Taking an average duration of 6 months per patient, (a low estimate for this disease) the total number of indoor T. B. patients treated annually in these hospitals could not be more than 20. But the Surgeon-General's Report for 1937 shows that no less than 6,828 T.B. patients (5,065 lung T.B. and 1,763 of other types) came to seek treatment in the hospitals and dispensaries in the district of this Division in that year. Out of these 6,828 patients, no less than 6,808 had thus to be content with casual attendance at out-door dispensaries.

DACCA DIVISION:

Out of 23 hospitals in this Divison with 825 beds, only 2, with 385 beds, have accommodation for 21 T.B. cases each. The total number of T.B. cases which can be treated indoor is thus only 42. But in 1937, as many as 3,882 T.B. sufferers sought treatment in the hospitals and it is obvious that out of these no less than 3,840 patients had to be content with whatever treatment they could receive from casual attendance at outdoor dispensaries.

CHITTAGONG DIVISION:

Out of 19 hospitals, with 334 beds, only 2, having altogether 74 beds provide for 4 beds for T.B. patients. Thus not more than 8 indoor patients can be treated in a year. The number of sufferers who sought treatment for T.B. in 1937 was 526. 418 patients, therefore, had to be content with casual prescriptions from outdoor dispensaries.

RAJSHAHI DIVISION: (Excluding Darjeeling)

Out of 18 hospitals with 527 beds, only 4, having altogether 257 beds, provide for 20 T.B. beds. Forty patients can therefore, be treated there for this disease in a year. But the number of T.B. patients who came for treatment in 1937 in the public hospitals and dispensaries was 4,759. Thus as many as 4,719 cases had to be satisfied with causal prescriptions from outdoor dispensaries.

Detailed statistics, district by district, taken from the Surgeon-General's Report for 1937 are given here.

So far for the mofussil districts. For Calcutta, the striking fact is as many as 19,315 T.B. cases or more than half the total number of cases recorded in the Surgeon-General's Report, came to seek treatment in the public hospitals and dispensaries. Out of the 21 hospitals in the City with 3,355 beds, only 3 having 2,879 beds provide for 82 beds for T.B. cases. The number of patients who are left to the treatment of outdoor dispensaries was, therefore, 19,151 in 1937.

At the Jadabpur Tuberculosis Hospital, the number of patients treated in 1939 was 340 with the following results:

Cured and discharged freed from infection ..	55
Discharged as greatly improved	13
Left otherwise	31
Stayed for less than a month	59
Died	33
Found to be non-tubercular	5
Carried over to 1940	144
Total ..	340

This result was achieved in spite of the fact that a good proportion of the cases came at a very advanced stage of the disease.

In the district of Darjeeling, there is provision for 129 beds for T.B. cases of which 33 are in the S. B. Dey Sanatorium at Kurseong, which is an auxiliary of the Jadabpur Tuberculosis

Hospital. The number of T.B. cases who sought treatment in public hospitals and dispensaries in 1937 was 4,759.

The problem of campaign against this fell disease is thus stupendous. While it cannot be ignored that outdoor treatment and even educative propaganda have their value, the immediate necessity is to provide for greater facilities for institutional treatment, and segregration of cases. It has to be remembered that every patient treated in a hospital or sanatorium saves the spread of infection to at least 10 others. The best method of treating a T.B. patient is in an institution provided with modern appliances and medical staff specially trained for this purpose. A scheme with the above object in view should thus be approached on the following line:

(1) Increasing the number of T.B. beds in the mofussil hospitals; separating such beds from other beds; equipping each such hospital with primary requirements such as X-Ray, A.P. apparatus and laboratory, etc., training the medical staff for treatment of tuberculosis of lungs, bone and all other types; provision of a tuberculosis dispensary at each of these hospitals for diagnosis and sorting of cases and for A.P. treatment on suitable cases who cannot be admitted, as well as on discharged patients.

(2) Developing a fully equipped *clinic* in a fairly large hospital; arranging for a course of training at such a clinic for the medical officers attached to the mofussil hospitals; co-ordinating the mofussil hospitals with the Central Clinic for transfer of cases to the latter for surgical or other special methods of treatment.

For (1) the objective should be to provide at least 5,000 beds for T.B. cases in the mofussil district hospitals. In the 16 mofussil hospitals there are now only about 93 beds for T.B. patients. It may be possible to convert a few of the general beds in some hospitals to T.B. beds, but even then it will not touch the fringe of the problem. It appears from the Surgeon-General's Report for 1937 that about 550 beds out of a total of 2,906 beds in the mofussil hospitals remained unoccupied in that year. Taking this fact into consideration, if 20 per cent or 110 of the vacant beds are set apart for T.B. patients, no additional capital expenditure would be involved, but the total accommodation for T.B. patients would be 210. Moreover, this arrangement is quite practicable immediately. The requirements of the hospitals where such increase is possible should be investigated and provided for. In places like Dacca and Narayanganj, it may be possible to arrange for a large boat-hospital or a flat on the river.

But what is necessary is that a programme, covering a period of not more than 5 years, should be drawn up so that there may be at least 5,000 beds in the mofussil hospitals, or close to them, in course of this period. The capital cost in each district for this purpose may be estimated at Rs. 25,000/- and for the 27 districts it would be Rs. 6,75,000. This amount

T.B. cases treated in Hospitals and Dispensaries in 1937 (Excluding Calcutta, Jadabpur and Darjeeling). Taken from the Report of the Surgeon-General with the Government of Bengal.

District	Lung T. B.	Other forms of T. B.	Total	Hospitals Where T. B. Beds Are Provided Name	Total	No. of beds	T. B. beds
Burdwan	1,158	360	1,518	Fraser ..	150		8
Birbhum	518	119	637	.. ..	..		..
Bankura	288	53	341	Sadar ..	36		4
Midnapur	667	400	1,067	Sadar ..	81		4
Hooghly	1,664	701	2,365	.. ..	..		..
Howrah	770	130	900	Sadar ..	199		18
24-Perganas	1,213	205	1,418	.. ..	..		..
Nadia	1,452	209	1,661	Sadar ..	40		2
Murshidabad	707	169	876	Sadar ..	107		4
Jessore	565	37	602	Sadar ..	30		2
Khulna	782	97	879	Sadar ..	49		6
Dacca	1,389	327	1,716	Mitford ..	261		17
Mymensingh	1,032	190	1,222	Suryakanta	124		4
Faridpur	376	53	429	.. ..	..		..
Bakarganj	466	49	515	.. ..	..		..
Chittagong	138	72	210	.. ..	..		..
Noakhali	89	25	114	Sadar ..	46		2
Tippera	241	52	293	.. ..	..		..
Chittagong Hills ..	61	44	105	.. ..	..		..
Rajshahi	1,240	236	1,476	.. ..	..		..
Dinajpur	582	51	633	Sadar ..	62		6
Jalpaiguri	577	48	625	Sadar ..	106		6
Rangpur	828	43	871	Sadar ..	59		6
Bogra	353	97	450	.. ..	..		..
Pabna	444	24	468	Sadar ..	30		2
Malda	230	6	236	.. ..	..		..

may be spread over 5 years. The additional structures may be of light type which may last for 10 or 15 years. Provision should be made also for additional recurring expenditure especially in view of the fact that at least half the number of beds would have to be free. The medical staff may have their training either in the Calcutta Medical College Hospitals or at the Jadabpur Hospital for special methods of treatment of T.B.

For (2) the Central Clinic, the Jadabpur Hospital has now the best advantages. It treats every year about 350 cases and when the number of beds is raised to 500, it will be in a position to treat every year at least 1,000 patients in the near future.

The next largest Clinic for T.B. is the Calcutta Medical College Hospitals. It provides, however, only 24 beds for T.B. cases and is located in a congested part of the city.

The Jadabpur Tuberculosis Hospital is situated on open grounds on the outskirts of Calcutta, over an area of about 125 bighas of land. It has developed from private enterprise, and the capital applied already is about 10 lacs of rupees. Of this, the Government of Bengal contributed Rs. 1,00,000 in 1928, Rs. 12,500 in 1936 and Rs. 1,36,000 in 1938-39, total Rs. 2,48,500. To complete the scheme, comprising the provision of 500 beds with quarters for medical, nursing and other staff, graduated exercise grounds for patients, and sewerage and drainage work, etc., etc., a further sum of Rs. 17,00,000 is needed. The main source of income for the maintenance is in the fees received from paying patients. About 50 beds are free and the cost of maintenance thereof is met from the contributions received from the Calcutta Corporation, Howrah Municipality and certain other bodies. With a provision for 500 beds, there ought to be at least 200 free beds. The direct cost of maintaining a bed is about Rs. 800/- a year. Government has provided in the budget for 1940-41 for a recurring grant of Rs. 10,000. The institution is growing in popularity. A large number of applications for admission is always on the list and as soon as a new block or cottage is constructed, it is booked in full in advance. Applications which had to be refused during the last three years for want of accommodation were 140 in 1937, 193 in 1938 and 229 in 1939. The patients admitted during the last 3 years total 611 and they came from each and every district of Bengal. The distribution was as follows:

	Calcutta	Mofussil districts
1937 ..	.. 65	118
1938 ..	.. 68	144
1939 ..	.. 71	145

About two-thirds are thus from the mofussil districts. Another significant fact is that T.B. patients from other provinces also seek treatment in this hospital. In 1937 there were 18, in 1938, 11, and in 1939, 28 such cases.

There has been a good deal of talk about a climatic sanatorium for Bengal. But if the controversy is to be tested by results, the actual results obtained at Jadabpur for the people accustomed to the climate of the plains of Bengal amply justify its suitability. Moreover, a climatic hospital, assuming that it is ideal in theory, is bound to be expensive and in any case its facilities would be restricted to the richer classes. If, however, a sanatorium in the Hills is considered to be a necessity, the first consideration should be given to the one already existing at Kurseong which has every scope for expansion. The results obtained with the few patients treated there during the last 3 years compare very favourably with those obtained in other hill sanatoria in India and entirely repudiate the apprehension in certain quarters that the climate of Kurseong is not suitable for the treatment of tuberculosis. The results obtained at the Kurseong Sanatorium are as follows:

Arrested	17	(28·3%)
Much improved	20	(33·3%)
Improved	12	(20·0%)
Stationary or worse	11	(18·4%)
Not taken into consideration (stay less than a month)	6	
Total ..	66	

When a scheme on the lines indicated above has materalised and popular confidence fully gained by effective hospital treatment, schemes for convalescent homes on large open grounds, preferably by the side of a river may then be developed.

Regarding publicity and propaganda work for the prevention of tuberculosis all over the Province, the Bengal Tuberculosis Association may be asked to meet the necessary expenses out of the funds raised under Her Excellency the Marchioness of Linlithgow's appeal.

The scheme suggested herein is likely to entail a very large amount of expenditure and it is not known whether Government will find it possible to meet the same entirely from the provincial exchequer. The yield of additional revenue expected from the new taxation proposals of the Govt. of Bengal for national building work could not be better utilised than by making a certain proportion of their revenue earmarked for the fight against tuberculosis. Otherwise a well planned scheme for running a lottery for such a laudable object may be considered. It was only by the establishment of the old lottery committee in Calcutta that the building of the present Town Hall and improvements of the Cornwallis Street and other public squares in the city were possible. The Irish Sweepstakes is another instance in favour.

SOME PREVENTIVE ASPECTS OF OBSTETRICS

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From the earliest centuries of man's existence on the face of the globe, Obstetrics—though only of an empirical nature—was practised amongst primitive peoples of all ages. At some later period in the past ages older women who had

borne children began to assist the younger ones during the ordeal of childbirth; some of these possessed superior skill and they in turn instructed others in their primitive art of obstetrics. A similar practice is prevalent even to-day amongst the orthodox and rural population in this country. Since that remote era of empirical obstetrics there has been great progress in the development of obstetric knowledge, particularly during the last century. Although many obstetric and gynaecological problems remain to-day for future investigation the present century has seen even greater and newer developments in the art and science of obstetrics. Nevertheless we cannot ignore the very lamentable fact that in spite of all the scientific research and development of our knowledge and practice of obstetrics, the excessive mortality and morbidity which are associated with the reproductive function of woman has not materially diminished for some years past. In recent times this has led to the development of a new angle of vision in obstetrics. As in other branches of internal medicine many of the diseases and catastrophies of pregnancy and labour are now considered preventable, and strenuous attempts are now being made in every country to develop this preventive aspect of obstetrics. A study of the causes of death from childbirth shows that many of the fatalities could have been prevented by greater antenatal care and skill in the management of labour. In a report on maternal mortality issued in 1930 by a committee appointed by the Ministry of Health of England it was estimated after a careful analysis that 48 per cent. of the deaths were preventable. The maternal mortality rate in England and Wales was 3·8 in 1936; and according to the annual report for 1937 of the Public Health Commissioner, maternal mortality in India is probably 5 or 6 times as high as that of England. It has been reported in the annual report of the All-India Institute of Hygiene and Public Health that even 90 per cent. of the maternal deaths in Calcutta are preventable. Moreover, these deaths usually occur in the prime of life, in the exercise of a function which ought to be natural and as such, must be regarded as a serious loss not only to the new born infants, young children and the homes of the people but for the nation as a whole. Again if we remember that a high death rate means a correspondingly higher rate of sickness, suffering and prolonged invalidism, we can easily realise what a very lamentable state of affairs we are in.

From the foregoing it is evident that if we are to live as a nation, the present high rate of mortality and morbidity in childbirth must have to be considerably improved upon by fostering the development of the preventive side of obstetrics. For this, education of the public is no doubt needed but the medical profession must lead the way in offering an improved obstetric service to women. An anlysis of the individual causes of maternal deaths is very illuminating from this point of view. We find that puerperal sepsis takes the highest toll and alone contributes to about 45 per cent. of the total number of maternal deaths. Other causes contributing to large number of maternal deaths are:—pregnancy toxæmia, hæmorrhage in pregnancy and labour, difficult labour and accidents of childbirth, and last but not the least, anæmia. It will thus be appreciated that if we can reduce the number of maternal deaths and disabilities from these above mentioned causes, we shall be contributing a large share towards the practice of the preventive aspect of obstetrics, of which the ultimate aim is to ensure a safe motherhood with a minimum of deaths from childbirth.

We have referred to above about the high incidence of puerperal sepsis in the causation of maternal deaths; from which it will be evident that the greatest improvement in the mortality from childbirth will be achieved by the prevention of this condition. It may be said here that the chief indirect causes of puerperal sepsis are difficulties in labour requiring manipulative delivery which often cause extensive damage to the soft parts, and it is precisely this kind of difficulty which can be prevented in a large number of cases by treatment based upon antenatal examination and diagnosis. As regards their origin, cases of puerperal sepsis may roughly be divided into two classes. One class is made up of patients infected by the variety of hæmolytic streptococcus called "Group A" by Lancefield and Hare. Leonard Colebrook of the Queen Charlotte's Hospital found 40% of cases of puerperal fever due to hæmolytic streptococci. The infection from this organism is severe, often fatal, does not require the presence of traumatised or dead tissue, and is therefore seen after simple easy labours as well as after long and difficult deliveries. Although infection by hæmolytic streptococcus is very serious, its prevention is not quite so very difficult. For the prevention of Group A infections from the nose and throat of the patient and of those around her, besides other preventive measures, the doctor, the nurse and all those in attendance should wear efficient masks over nose and mouth. To serve its purpose efficiently this mask must prevent droplet infection. We must also remember that after use the inside of such a mask may quite possibly be infected with streptococci and hence is unfit to be put back into the obstetric bag without being sterilised by boiling. Besides, a rigid aseptic and antiseptic technique must be adopted in the conduct of labour for, as De Lee says, only gross errors of technique can cause serious infection in domiciliary obstetrics and that the greatest danger in the lying-in chamber is what the accoucheur brings in. In this respect we all know the great importance of soap and water, and that is the most important and valuable ritual in midwifery. Halogen derivative antiseptics like dettol are of great use for they leave a protective film on the skin which lasts for some time. There is a danger that with the introduction of sulphanilamide less trouble will be taken at times with the aseptic and antiseptic preparation. Here it may be said that, at least in domicilary practice, attempts at sterilisation of the vagina are better omitted for they carry the added risk that pathogenic micro-organisms may actually be introduced with the necessary use of instruments in the vagina.

Another class of cases of puerperal sepsis includes those in which the infecting organisms are non-hæmolytic streptococci, B. Coli or occasionally staphylococci. Quite often there is bruising of maternal tissues as is commonly seen in manipulative delivery, a difficult forceps operation or a manual removal of the placenta. Prevention of this class of cases can only be effected by properly managed antenatal supervision whereby malpresentations and occurrence of disproportions may be diagnosed and dealt with before the onset of labour; thus reducing trauma to the maternal tissues to the

minimum. Another necessity for the prevention of this class of cases of puerperal sepsis is a rigid aseptic technique in connection with the hands, gloves and instruments used in the conduct of labour, and also reduction of manipulations to a minimum. Manual removal of the placenta is a serious operation and should not be resorted to carelessly or just to shorten the duration of the attendant's stay with the patient.

A few words may be said about the treatment of puerperal infection which has acquired a new interest since the introduction of sulphanilamide. Although it is a great aid to the therapeusis of puerperal infection, sulphanilamide cannot however replace all of the measures which has heretofore been in use. It must be appreciated that infection with hæmolytic streptococcus is the chief field of use of sulphanilamide which is also quite often administered as a preventive measure in labour cases where infection is feared. Further, it is often found that despite treatment with sulphanilamide the prognosis is somewhat poor in hæmolytic streptococcal infection in the presence of any extensive trauma.

The toxæmias of pregnancy consist of a group of disorders which account for about one-fourth of the total mortality incident to childbirth. This high death rate may be reduced to the very minimum by proper development and practice of the preventive side of obstetrics. Pre-eclamptic toxæmia and eclampsia are the two items under this heading that carry away the largest number of mothers. The clinical picture is depicted in every textbook, but it may not be out of place to note here that the onset of pre-eclamptic toxæmia is rarely seen before the 20th week and is generally heralded by a rise in the systolic and diastolic blood-pressures above their normal levels. Albuminuria and œdema are very often later in appearance; sometimes there is an occult œdema with a rapidly increasing body-weight. Persistent headache, dimness of vision, flashes of light before the eyes and epigastric pain are sometimes complained of. During the course of a properly conducted antenatal supervision there should be no difficulty in detecting pre-eclamptic toxæmia in its earliest stage, and when discovered, it should be treated energetically. Treatment is along lines of promoting diuresis, giving saline purgatives with restriction of protein and salt intake; in more severe cases rest in bed and liquid diet is advised.

Eclampsia is a disease occurring almost exclusively in the last trimester of pregnancy. The clinical picture usually consists of definite signs and symptoms of toxæmia followed by a typical fit; but in some cases the fit may appear without obvious premonitory symptoms. The disease is not associated with disturbed deaminisation. No toxin in the blood or urine has been isolated and there exists no conclusive evidence to implicate the posterior pituitary gland. The eclamptic fit is described in every text-book and is a typical one, but may sometimes have to be distinguished from other convulsive disorders such as epilepsy, hysteria, cerebrospinal fever and poisoning by strychnine. Taking into account the condition of the urine, blood pressure etc., however, no difficulty should be experienced. By thorough and efficient antenatal care eclampsia may be prevented in a large percentage of cases. When eclampsia has actually set in, the best results are obtained by following a conservative treatment along Stroganoff's lines. The use of morphia and chloral hydrate, the avoidance of any obstetric interference unless indicated in the second stage of labour, the avoidance of general anæsthesia—specially chloroform, the prevention of aspiration pneumonia or œdema of the lungs, and the constant lookout for acidosis are the essentials of this treatment.

A large number of mothers die every year from hæmorrhage during pregnancy and labour. In this group there are three great contributory causes, and we shall be doing a great deal towards the reduction of maternal deaths if we can prevent or successfully manage these conditions. These are, unavoidable antepartum hæmorrhage of placenta prævia, accidental antepartum hæmorrhage and postpartum hæmorrhage. Of these, postpartum hæmorrhage is a condition which can be prevented to a very great extent by thorough and efficient antenatal care whereby abnormalities and difficulties in labour can in many cases be foreseen and the cases dealt with well in advance. Postpartum hæmorrhage occurs most commonly from defective functioning or atony of the uterine musculature, less frequently it is due to retention of a partially separated placenta or of an individual cotyledon, but we often see this condition due to deep tears or lacerations of the parturient canal and occasionally due to abnormal blood-states or diseases of the blood vessels. Calcium chloride, parathyroid and vitamin K during pregnancy and about 50 c.c. of 50% glucose solution given during labour may be useful in patients with a tendency to bleed. Proper and careful conduct of labour, specially the management of the third stage, goes a great deal towards prevention of postpartum hæmorrhage and cannot be overstressed. If labour has been a prolonged one, a prophylactic dose of ½ to 1 c.c. of pituitary extract may be given as soon as the baby's head is born, and a hypodermic injection of ergometrine or neo-gynergen should be administered following the birth of the placenta. It must be said here that, although it appears to be practised quite often, manual removal of the placenta may be quite a dangerous operation and must not be undertaken lightly.

Placenta prævia is a type of antepartum hæmorrhage where prevention is not considered possisble. The climincal picture is also well known. A few points said about treatment may be of use in the management of such a case and thus lowering the mortality rate. Besides Cæsarean section in suitable cases, practically all treatments for placenta prævia are directed towards applying a gentle and even pressure over the placental site and this must be done at the earliest possible moment. Pressure can be applied to the placental site by rupturing the membrances and applying a tight binder, by bringing the half breech of the fœtus into the lower uterine segment, by attaching Willett's forceps to the fœtal scalp, by inserting a de Ribes's bag into the amniotic cavity, or by tightly plugging the vagina and applying an abdominal binder. Plugging the vagina should be considered as an emergency measure, to be resorted to only where no other line of treatment is possible; and must not be imagined as is often apparently done—as the only or the best line of treatment in this condition. It may be added that to be effective the plug must be a tight one and the gauze or the pledgets of cotton wool should better be soaked in an antiseptic such as 5 per cent dettol solution.

The clinical picture and detailed treatment of accidental antepartum hæmorrhage—also called abruptio placentæ or ablatio placentæ—are fully given in all text-books and need not be considered here. The fundamental basis of treatment is that uterine contractions and increased muscular tone check the bleeding and the progressive separation of the placenta by raising the intrauterine pressure and pressing the placenta against the fœtus. Probably the best results come from non-operative treatment; and briefly speaking, this consists in combating the shock, putting on a tight abdominal binder, giving small doses of pituitary extract to aid contraction and retraction of the uterus, rupturing the membranes and if there is no satisfactory progress, aiding delivery by means of Willett's forceps traction.

Anæmia in pregnancy, although frequently seen in this country, is a really serious condition; for recent figures by Mitra from Calcutta indicate that, directly or indirectly anæmia is responsible for about one-third of the maternal death rate. Hence in an attempt to reduce the death rate in childbirth, anæmia in pregnancy should be recognised early and treated energetically, when discovered, along usual lines. It may be said here that in severe and urgent cases very good results are obtained with blood transfusion, about 100 to 125 c.c. being given at one sitting; and this may be repeated if necessary. If we want to prevent the death of the large number of mothers every year, blood transfusion should be much more popularly practised than at present in suitable cases of anæmia and hæmorrhage during pregnancy or labour.

In concluding it may be said that properly conducted antenatal care is the strategy, and skilful management of labour and its complications the tactics, by which we can attempt to reduce the mortality in childbirth and gradually develop the preventive side of obstetrics.*

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CURRENT MEDICAL LITERATURE

MEDICINE

A Clinical Classification Of Haemorrhagic Diseases Due To Coagulation Defects

Quick (*Wisconsin Journal, Ref. Gen. Practitioner*, 1940: 11:232) summarizes in the following outline the hæmorrhagic diseases due to a disturbance of the coagulation mechanism.

1. *Thromboplastin Deficiency.* (A) Abnormaml resistance of platelets—(*a*) hæmophila. *Treatment:* No specific remedy known. II. *Prothrombin Deficiency.* (*A*) Inadequate supply of vitamin K—hæmorrhagic disease of the new born. Treatment: Oral administration of vitamin K. (*B*) Faulty absorption of vitamin K—(*a*) obstructive jaudice or biliary fistula (absence of bile in intestine); (*b*) serve intestinal disease interfering with absorption of vitamin K (sprue, gastrocolic fistula, ulcerative colitis). Treatment: Vitamin and bile salts orally; Intravenous injection of phthiocol. (*C*) Inability of the liver to utilize vitamin K for synthesis of prothrombin—(*a*) prolonged obstructive jaundice; (*b*) severe hepatitis. Treatment: Vitamin K and bile salts orally; intravenous injection of glucose; administration of calcium salts; feeding of gelatin. III. *Fibrinogen Deficiency.* (*A*) Acquired—(*a*) liver diseases; (*b*) nutritional deficiency diseases; (*c*) extensive destruction of bone marrow. (*B*) Congenital—Treatment: Transfusion. IV. *Calcium Deficiency.* No hæmorrhagic disease known in which lack of calcium is the primary cause. V. *Antithrombins* (heparin). Anaphylactic shock. Treatment: None indicated.

Effects Of Serum And Saline Infusions: Quantitative Studies in Man

Hill and others (*Lancet*, 1940:2:774) give in the following lines the summary of their observations on hæmoglobin concentration, blood volume and blood pressure made before and after infusion with normal saline, hypertonic saline, serum or concentrated serum in normal people and in patients with post-operative and post-traumatic shock:—Physiological or hypertonic saline given intravenously to normal people is rapidly lost from the circulation. Serum given intravenously to normal people is retained in the circulation for long periods. The rise in the blood volume depends on the total quantity of protein added and is independent of the dilution of the serum employed. In patients with shock intravenous saline produces transient benefit only Intravenous serum is very effective in overcoming circulatory collapse due to diminished blood-volume. The recovery of a patient with shock is invariably heralded by a rise in systolic and pulse pressures; the pulse rate, on the otherhand, is a deceptive index of the patient's condition, for it often remains high, even when the blood pressure has risen to normal. It is useful to follow the concentration of hæmoglobin in the blood of patients with shock—a rising hæmoglobin means a falling blood volume and precedes a deterioration in the patients' condition; recovery can be forecast if the hæmoglobin is falling, meaning that the blood volume is being spontaneously resorted by dilu-

tion of the blood; the retention of infused serum or saline can be gauzed by estimating the hæmoglobin.

Gastro-Intestinal Manifestations Of Heart Diseases

Flaxman (*Am. J. Digest. Dis.*, 1941:8:10) from an analysis of the histories of 1,500 cardiac patients observes that pain, distress or fullness in the epigastric region, over the entire abdomen or in the right upper quadrant were the most common complaints and occurred either previous to or at the same time as the important cardiac symptoms, that though belching, obstipation and flatulence were the early manifestations of heart disease they were far less frequent in occurrence. The author further points out that these gastro-intestinal manifestations were unrelenting in character and persisted until the cardiac condition was relieved. Combined gastro-intestinal and heart diseases may occur but that very rarely (only 3 such cases were observed in this series).

A Valuable Sign In The Diagnosis Of Functional Aortic Insufficiency

Lowenberg (*Ann. Int. Med.*, 1940:14:991) writes that in functional aortic insufficiency the systolic pressures in the upper and lower extremities are about equal whereas in organic aortic insufficiency the systolic pressure in the lower extremity is from 50 to 100 or more mm. of mercury higher than in the upper extremity.

Cerebrospinal Meningitis: The Use Of Sulphonamide Derivatives In Prophylaxis

Fairbrother (*Brit. M. J.*, 1940:2:859) in reporting on the investigation on the prophylactic value of sulphanilamide in cerebrospinal meningitis writes that three groups of cases, each of different nature were studied. The first and the largest consisted of men undergoing treatment of gonorrhœa—only one man out of 139 proved to be a meningococcus carrier when swabbed after a course of sulphapyridine whereas the carrier rate in two comparable groups of men not receiving the treatment was 16 per cent and 21 per cent. Secondly 14 convalescents from cerebrospinal fever—all gave negative swabs whereas before the advent of chemotherapy it was common for such patients to remain carrier for some time. Finally 13 carriers—all lost their meningococci after four days' treatment with sulphapyridine. These results go to show that adequate dosage with sulphapyridine is a satisfactory method of clearing meningococci from the nasopharyngeal mucous membrane.

Treatment Of Arteriosclerosis Obliterans

Wright (*J. A. M. A.*, 1940:115:893) observes that the trend in recent years has been toward conservative therapy as against radical surgery and marked success has been achieved from this trend in the treatment of thrombo-angiitis obliterans. Arteriosclerosis obliterans has been less responsive to conservative therapy for many reasons and inspite of the handicap definite improvement in the amputation rate has been achieved by the selective and considered use of the followwing important technics and medications: Rest of the involved extremities in a controlled temperature of from 88 to 94°F; soaks and baths at similar temperature using only mild solutions such as saline, boric acid or azo-chloramide in triacetin 1:500; heat applied to abdomen producing reflex vesodilatation; postural exercises, preferably passive, by means of the oscillating bed described by Sanders; pressure-suction boots in a few selected cases; alcohol in the form of spirituous liquors by mouth; deproteinated and other pancreatic tissue extract by intramuscular injection; extreme general care in the protection of the feet; meticulous attention to any open lesions, using only the correct technic in the care; control of diabetes and other complications; the judicious use of the sulphanilamide compounds in the presence of infections, selection being based on the organism present if possible. Of almost equal importance is the necessity of avoiding (1) the use of heat greater than 96°F, applied to the extremities—specially in the form of hot water bottles, heat pads, infra-red, diatheramy and short-wave machines, (3) the use of strong antiseptics and (4) meddlesome surgery in unskilled hands.

A Cure For Cramp

Moss and Herrmann (*J. A. M. A.*, 1940:115:1358) report on the successful treatment with quinine in cases of night cramps affecting the lower limbs of middle aged or elderly people at rest, often showing no evidence of perivascular disease. The pains, are presumed to be due to muscular spasms and may or may not be associated with intermittent claudication. Quinine acts at the myoneural junction as the antagonist of prostigmine thus reliving spasms in myotonias. Quinine is given in 3 grain doses thrice daily.

SURGERY

Dental Haemorrhage

Walker (*Brit. Dental J.*, 1940:349) in giving the summary of the conditions likely to cause dental bledding after teeth extractions and the means of dealing with it observes that the commonest variety is caused by trauma, a less common type though caused primarily by trauma persists owing to abnormalities of the blood or vessels and a very rare type in which the bleeding occurs as a symptom of some other condition such as thrombocytopœnic purpura. Generally the bleeding comes from a partially severed vessel. The author divides his cases of bleeding into (*a*) immediate, (*b*) intermediate, where bleeding occurs after an interval but within 24 hours of extraction and may be due to such conditions as a rise of blood pressure following a general anæsthetic, sliping of a ligature or wearing off of the effects of adrenaline; (*c*) remote when bleeding begins after 24 hours and is caused by progressive sepsis. It is the second variety of cases which comes frequently to general practitioners. The wound should be carefully mopped out and examined. If a bleeding point is found an attempt should be made to pick it up with artery forceps and close it by gentle twisting; failing this a stitch through the free gum margin will often arrest hæmorrhage. If no bleeding point is seen and there is general oozing all round the gum margin sustained pressure by a small pad held in position by the fingers or by the opposing teeth is usually effective. Hæmostatics such as turpentine and perchloride of iron are rarely necessary. Once the hæmorrahge has been checked the author suggests that full family history in respect of hæmorrhage should be taken; a blood count will decide whether any blood disorder is present;

a differential count will probably indicate the presence of leukæmia and a platelet count and a capillary resistance test will help in the diagnosis of purpura. Too much weight should not be placed on bleeding and coagulation times as they are often misleading.

Chronic Hoarseness: Report Of Three Hundred Consecutive Cases

Damitz and Dill (*Ann. Otol. Rhin. & Laryng.*, 1940:49 996) report that in this series of 300 consecutive cases of chronic hoarseness occur vocal cord paralysis 102 cases, chronic non-specific laryngitis 100, benign tumor 41, malignant tumor 25, tubercular larynx 23, syphilitic 1 and miscellaneous (containing cases of psychoneurosis, myasthenia gravis, hysteria and psychopathic personality) 8. These group of patients continued with hoarseness for a varying but prolonged period before seeking relief, the average duration of which was as follows: vocal cord paralysis—2½ months, chronic non-specific laryngitis—2¼ months, benign tumors—2 years, malignant tumors—9½ months, tubercular larynx—2-1/3 months. The author concludes by stressing on the fact that chronic hoarseness is a potentially dangerous symptom and it is the duty of the profession to utilize every means available to reach any diagnosis and institute treatment.

Chemotherapy In Otitis Media And Mastoiditis

Bowers (*J. A. M. A.*, 1940:115:174) from an analysis of 793 cases of acute suppurative otitis media treated in New York during the last three years observes that out of 231 early cases in which myringotomy was done on or shortly after admission to the hospital chemotherapy was used in 113 cases and not in the remaining 118 and otorrhœa lasted on an average for 9 days in the chemotherapy group and 17 days in the other. Of 387 cases where the ear condition was only of a few days' duration 207 received chemotherapy and 12 (5·8 per cent) of them progressed to mastoiditis compared with 24 (13·3 per cent) of the remaining 180 cases which did not get chemotherapy. The author gives a chart of the number of mastoidectomies performed since 1929 with a rapid falling off since the introduction of chemotherapy.

Causes Of Failure In The Treatment Of Otitis Media

Woodman (*Lancet*, 1940:2:746) at a meeting of the section of otology of the Royal Society of Medicine observes that there are four chief causes of failure: infection in the mastoid air cells, infection in the postnasal space, disease in the attic region of the middle ear and unsuspected tuberculosis. The treatment of the first two conditions is along the usual lines but the third has been the subject of some conflict of ideas. A mastoid operation is the proper treatment for these cases. Layton thinks that the problem is largely bacteriological—the disease remains acute so long as the invading organisms are from the nasopharynx but becomes chronic where there is secondary infection by organisms from the skin of the meatus. Nutrition of the patient is of prime importance in the ultimate recovery of the patient. Among the causes of failure he puts early myringotomy, the use of wet-treatment and dirt, specially lack of control of hair. Sinusitis he does not believe to be as common in children as it is the fashion to suppose. In encouraging eustachian drainage movements of the palate, chewing and mild physical exercises are helpful. Adenoidectomy in the early stages of the infection is not only useless but wrong because it exposes a raw area to hæmolytic streptococci and cannot remove the submucous lyphoid tissue of the cartilaginous portion of the tube which is the real cause of obstruction. When otorrhœa persists for longer than 6 weeks a mastoid infection is probably present and operation should be decided after considering the amount and nature of discharge, whether or not it is pulsatile, the degree of deafness and the x-ray findings. Mclaggan observes that failure is not confined to one set of surgeons, it is experienced by those who remove lyphoid tissue and those who preserve, those who drain sinuses and those who do not. Chemotherapy has certainly reduced the incidence of mastoiditis but it has not prevented the onslaught of otitis media. Myringotomy when properly indicated and properly done by experienced hands is not harmful. The incision in the posterior half of the drum as is recommended in most books is not advisable. Too much local treatment is bad. Hydrogen peroxide is sometimes invaluable to break up blood clots but should always be subsequently removed. A gauze wick in the meatus only acts as a dam.

Evaluation Of Roentgen Therapy In Sinus Diseases

Maxfield and Martin (*Radiology*, 1940:34:300) writes that they use a heavy dose (400r) given as one dose, the eyes, brows, hair and chin being shielded. The cases treated are those who had failed to improve with conservative and surgical treatment. The percentage of cases cured or improved was greater when treated in the acute stage and decreased in the chronic type. Cases with polypus were unchanged. Eight cases with less severe proliferative changes were cured or improved while one remained unchanged.

OBSTETRICS AND GYNAECOLOGY

Appendicitis In Pregnancy

Twyman and others (*Proc. Staff. Meet. Mayo Clinic*, 1940:15:484) observe that the incidence of appendicitis is no greater during pregnancy than at any other time and that approximately 2 per cent of women presenting themselves with symptoms of appendicitis were pregnant. The management is the same in both pregnant and non-pregnant cases. There were 3 abortions in the series (4 per cent). Operations for acute cases, if indicated, is performed at once, regardless of the duration of pregnancy. The prognosis of uncomplicated appendicitis in pregnancy is good. The differential diagnosis from acute pyelonephritis is important, and it is usually advisable, in all but the most certain cases of appendicitis in pregnancy, to examine a catheterized urine specimen from the bladder or even the ureter.

Volume And Rate In Blood-Transfusion For The Relief Of Anaemia

Marriot and Kerwick (*Brit. M. J.*, 1940:1:1043) from the results of a series of 194 drip-transfusion for anæmia, uncomplicated by acute hæmorrhage observe that as anæmia is hæmoglobin deficiency transfusion is necessary to administer hæmoglobin and should not be used for those cases in which

anæmia can be treated medically. Transfusion is indicated (1) when the anæmia reaches a dangerously low level (less than 25 per cent)—in these cases the level should be raised to 45 per cent; (2) when the anæmia is complicated by the need for surgical treatment—the level should then be raised to 80 per cent; (3) when the patient's recovery should be expedited for special reasons—the level should then be raised to 100 per cent; (4) when the anæmia is aplastic in type and will not respond to medical treatment—the level should then be raised to from 60 to 80 per cent; (5) when the anæmia is the result of septic and infectious conditions—the level should be then raised to 100 per cent. The volume of blood required depends on the patient's weight and the desired level of hæmoglobin. It may be thus calculated: (Per cent rise in hæmoglobin required÷ 100) multiplied by patient's normal blood volume in cubic centimeters (this is 40 c.c. per pound of body weight). In practice one pint of blood raises the hæmoglobin level by 10 per cent. If a rise of more than 33 per cent is required, it is better to give two transfusions with two days' interval between them. Fresh blood is necessary as red cells stored for longer than one week quickly disappear from the recipient's circulation. The rate of administration should never exceed 1 c.c. per hour per pound of body weight and in cases of severe anæmia and cachexia, half this rate is advisable. The rate of transfusion should be kept constant and must never be speeded up even for short periods. Careful watch for signs of cardiac embarrassment is essential. Slow drip-transfusion diminishes also the incidence and intensity of reactions.

Treatment Of Impacted Shoulder

Waterman (*Brit. M. J.*, 1940:2:12) writes that in cases of impacted shoulder presentation decapitation should be replaced by evisceration which is easy and safe. After traction on the arm, the chest wall is cut through with scissors and the thoracic viscera removed—the body of the child collapses and becomes easy for delivery. It is only in difficult cases that the removal of the abdominal organs is necessary.. General anæsthasia is not essential and there is no intra-uterine manipulation with its risk of ruptured uterus. The difficulty of delivery of a decapetated head is also avoided.

Obstetric Haemorrhage

King (*Rocky Mountain M. J.*, 1940:37:970) writes that hæmorrhage in early pregnancy is usually due to one of the types of abortion, less frequently to hydatidiform moles, at times to a cervical lesion and rarely to placenta prævia. Hæmorrhage in the latter half of pregnancy may be due to placenta prævia (painless and causeless bleeding), to abruptio placentæ (with pain and rigid uterus in the severe type, not in the mild form) or to the onset of premature labour. Postpartum hæmorrhage is due to (*a*) uterine atony, (*b*) laceration or (*c*) retention of placental tissue. Bleeding should always be given serious consideration, the source and causes should be searched for and prompt treatment should be instituted. Forcible dilatation of the cervix at any stage of pregnancy, frequently does more harm than good. Conservation of blood, replacement of lost blood and avoidance of infection are fundamental principles.

Causes of Death In Cancer of the Cervix Uteri

Auster and Sala (*Surg., Gynec. & Obst.*, 1940:71:231) from the study of 124 cases of cancer of the cervix uteri that came to autopsy at the New York City Cancer Institute and Hospital observe that the highest age incidence was in the fifth decade of life, that 80 per cent of the cases were in the clinical stage III and IV (League of Nations Classification) on admission, that 50 per cent had had symptoms for six months and another 25 per cent for one year before admission, that the chief antemortem symptoms were those of sepsis. They further observe that the outstanding cause of death as revealed by autopsy was sepsis either directly from or secondary to a local pelvic lesion and that the other more frequent causes of death were hæmorrhage and anæmia, uræmia, pneumonia, metastases, cardiac failure and pulmonary œdema. They point out that the sepsis may be either local—laceration, abscess, pyometra; due to peritonitis usually by direct invasion through uterine perforation; general including blood stream infection; nephrogenic or urogenic in which infection arises in the urinary tract.

TROPICAL DISEASES

Recent Advances in Tropical Diseases

Manson-Bahr (*Practitioner*, 1940:145:238) writes that bacillary dysentery is a disease of the war and this was amply verified in the last World-War. In 1939 in Poland 300 cases of dysentery occurred in the German Army and Gantenburg from analysis of 82 cases which arrived in Berlin observed that 32 were due to Shiga bacilli, 20 to Flexner bacilli but in 30 no distinctive organisms were found. Complications met with were polyarthritis, parotitis,, conjunctivitis, bronchopneumonia and some nervous symptoms, such as paræsthesia. On biochemical grounds dysentery organisms can be divided mainly into non-mannitol and mantol-fermenting groups. As at present understood the mannitol-fermenting dysentery bacilli are divisible into two groups *viz.* one, the pure *B. dysenteriæ*. Flexner, which includes the races which possess Flexner group antigen and another, a group which it has been suggested should be termed B. *dysenteriæ* Boyd, pathogenic organisms which possess Flexner biochemical reaction but do not have the group antigen. The best result in treatment has been obtained with anti-Shiga serums, as anti-Flexner and anti-Sonne sera have not been so far found satisfactory. Recently in Germany blood transfusion has been found to produce improvement in the most acute cases. Prophylactic inoculation has not so far been found satisfactory. Though Prigge claims to have obtained satisfactory immunity with formol toxoid but in practice it would be necessary to inject a vaccine containing a mixture of Shiga, Flexner and Sonne antigens.

Leishmaniasis—From recent works it has become increasingly clear now that the dog constitutes the principal reservoir of the disease. Three elements, *viz.*, substances in the serum, hæmatin and ascorbic acid are necessary for the cultivation of *Leishmania tropica* and *Leishmania donovani*. Menon writes that Kala-Azar is an inflammation of the reticulo-endothelium caused by parasitic invasion of the cytoplasmic reticular synci-

tium and in the later stages, by the spread of infection to the lymphatic reticulum of the spleen; blockage of the reticulo-endokthelium is the probable cause of anæmia. Diagnosis can be made from spleen puncture and sternal puncture and Kirk has recently shown that the parasite can be obtained from materials aspirated by means of a hypodermic needle from the lymphatic glands even in cases where the glands do not appear to be pathologically enlarged. In experimental treatment on hamsters infected with the parasites Wang has found that solustibosan, neostibosan urea-stibamine are increasingly potent in cure in the order stated and that daily injection appear to be less effective than when given at bi-weekly or tri-weekly intervals. Destruction of infected and stray dogs and adoption of measures for the protection against sandfly bites by nets have been followed by lower incidence of human kala-azar in certain places.

Pellagra. Cases of angular stomatitis with glossitis and various skin diseases which are observed in pellagrin are cured by nicotinic acid and alkaline autoclaved yeast in which flavin has been presumably destroyed. The clinical syndrome such as pigmented dermatitis with cracking and desquamation on the limbs, mental irritability and diarrhœa together with œdema of the face and extremeties as seen in Africa and United States and elsewhere or a syndrome with retrobulbar neuritis associated with glossitis, angular stomatitis, a dry scaly condition of the genitalia and pressure areas with mild mental changes and 'burning feet' as seen in West Africa—all these respond to treatment with marmite, auto-claved brewer's yeast. Nicotinic acid has not been tried in these cases. The pellagra preventing factor cannot be identified with nicotinic acid as the majority of pellagrin do not show a low nicotinamide blood content. The part played by nicotinic acid is still unsolved though the reports of the actual treatment of pellagra with nicotinic acid continue to be satisfactory. Cases of cheilosis (angular stomatitis) are reported to be cured by riboflavin also.

Pellagra in India.

Raman (*Indian J. Med. Research,* 1940:27:743) observes that pellagra accounts for 0·65 per cent of admissions to the medical wards at Vizagapatam, and is found in persons suffering from tuberculous peritonitis, beri-beri, leprosy, carcinoma of the penis, stricture of the urethra, hemiplegia or diabetes or who has undergone operation for duodenal ulcer. In some cases the disease may have been an ætiological factor. The following findings are also recorded: the anæmia present may be of macrocytic, normocytic or microcytic type; gastric acidity is commonly low with absence of free acid but there may be hyperchlorhydria; blood protein, specially albumin, is low and cholesterol values decreased—these become normal with treatment; there is an increase in total fats in the stool with a relative increase of neutral and split fats.

Tropical Macrocytic Anaemia in Punjabi Men

Taylor and Manchayda (*Indian M. Gaz.,* 1940:75:321) report 24 cases of tropical macrocytic anæmia with details of blood picture including sternal puncture findings and also with details of one post mortem examination. The blood findings and sternal puncture picture appear to be the same as Addisonian pernicious anæmia except for the possible presence of hæmoglobinized megaloblasts in the sternal puncture material of the latter.

Masked Amoebiasis in Bengal

Basu (*Carmichæl Med. Coll. Mag.,* 1940:8:38) from an analysis of 200 cases of dyspepsia which is very common in Bengal writes that about 75 per cent cases give evidence of an amœbic background. The real diagnosis is revealed by three points, *viz.,* (1) to think of the possibility or an amœbic background in these cases (2) to search for thickened and tender cæcum and sigmoid, a palpable liver and amœba, specially cysts in fresh specimen of the stool (by repeated examinations if necessary) and (3) to reassess the clinical data with the possibility of an amœbic background. Different clinical groups of masked amœbiasis have been discussed under the following heads: (*a*) gastro-intestinal (*b*) cardiovascular (*c*) nervous and (*d*) general. Thorough and intensive antidysenteric traetment in the acute stage prevent chronicity of the disease as also the occurrence of masked types.

Linguatulid Infection of Man

Roy and Ganguli (*Indian M. Gaz.,* 1940:75:478) report that a female patient whose main complaints were pain over the region of the frontal sinuses for sometime evacuated by coughing and sneezing small white 'worms' which were identified as immature stages or nymphs of Linguatula serrata Frolich. Altogether five worms were collected by the patient in a living state and they measured on average 4·8 mm. in length and 1·18 mm. in breadth at its widest part and the rows of spines were 91 in number. The antrum on illumination did not present any abnormal picture and the frontal sinuses too looked normal. The cause of pain over the frontal sinuses could not be reasonably explained. The life history of this arthropod includes two hosts, one carnivorous and the other herbivorous. L. *Serrata* is found in domestic animals of cosmopolitan distribution and the nymphal from has been reported from cattle, rodents and ungulates. This is the first record of Linguatulid infection in man in the East.

The Local Treatment of Ulcerated Oriental Sore by the Powder of Certain Sulphanilamide Derivatives.

Akrawi (*J. Trop. Med. and Hyg.,* 1940:43:4, *Ref. Trop. Dis. Bull.* 1940:37:779) reports on the treatment of 72 cases of ulcerating oriental sore in Baghdad with local use of M. & B. 693 or Uleron in the powder form after cleansing with saline solution. The result was 63 per cent cure in one months' time, a result which is distinctly better than that obtained with other forms of treatment. The rapidity of cure in certain number of cases shows that the drug acts not merely by suppression of secondary infection. There is no destruction of the tissues and consequently a good scar is produced.

Lecithin and Glucose in the Treatment of Withdrawal Syndrome in opium addicts

Chopra and Chopra (*Indian J. Med. Research,* 1940:28:225) from the analysis of the withdrawal symptoms in a

series of two hundred cases of opium addiction observe that the central nervous system and the digestive system are chiefly involved and write that lecithin and glucose will both be useful in relieving symptoms in these cases. Lecithin tones up the nervous system and glucose in addition to helping the liver in stocking glycogen assists the retention of water in the blood and helps to restore the disturbed water balance. The method of treatment is as follows: a dose of calomel 1 to 3 grains is given at bed time and is followed by an effective dose of saline next morning; lecithin is given by mouth as soon as the symptoms appear in doses of 15 to 20 grains t.d.s. in the form of pills or if there is nausea a colloidal solution is injected intramuscularly (2 c.c. of 1 per cent solution) twice daily and lecithin is continued until the major symptoms mostly disappear; in addition 25 c.c. of 25 per cent glucose with 10 c.c. of 10 per cent calcium gluconate is given intravenously every day for five days. This treatment usually lasts for from 7 to 12 days.

PEDIATRICS

Treatment Of Stomatitis In Children

Smith and Johnson (*J. Pediat.*, 1940:17:1) report prompt improvement in hospital and private patients suffering from gingivo-stomatitis with topical applications of 5 to 7 per cent watery solution of chromic acid which they now use as a routine. The details of treatment is as follows: after rinsing the mouth with something to which he is accustomed the gums and ulcers are carefully dried with a cotton swab and then another swab dipped in chromic acid solution is applied directly to the ulcers, and the inflammed edges of the gum, some of the solution being gently worked between the gums and the teeth. A small area only, not more than from one-third to one-half of the dental area is treated at any one time, the treatment being applied twice a day for one to three days and then once a day. Between treatments the child can continue to use the mouth wash. Though the treatment cannot shorten the course of the disease it certainly gives a more rapid improvement and relief of pain on eating. There seems to be no danger of any caustic effect from its use or of gum atrophy.

Treatment Of Adynamic Ileus By Gastro-Intestinal Intubation

Penberthy and others (Surg. Gynec. & Obst., 1940:71:211) writes that adynamic ileus, always a dreaded surgical complication is apt to be particularly dangerous in children. Causes are (1) post-operative presumably on the basis of trauma, (2) intra-peritoneal inflammation; (3) extra-peritoneal inflammation, trauma, toxæmia. Of older methods of treatment enemas empty only the colon and are very hard on the patient. Drugs only stimulate an already overloaded musculatures. 95 per cent oxygen administration does some good results but it is not always available. Spinal anæsthesia at times is good, but is rather drastic for children. The author has tried intestinal intubation and found it effective and the patients can tolerate it well. The tube is placed down far enough so that normal nutrition process can go on above it and so hydration and mineral metabolism are not upset. This method was tried in 33 cases of ileus—22 were relieved when the tube was inserted in the stomach and duodenum and in 11 cases it was necessary to place the suction tube in the jejunum or beyond it to control distension. The authors further note that adequate control of distention is a great factor in determining the successful outcome of the patient as is evidenced by the fact that the mortality rate of 171 cases of appendicitis was only 1·1 per cent even though there was peritonitis and abscess in 61 cases.

Convulsions in Children

McKhann (*Gen. Practitioner*, 1940: 11 178) in an article in the Digest of Treatment writes that although an attempt must be made immediately to stop a convulsive attack, symptomatic treatment is frequently only temporary. A diagnosis of the underlying cause may be necessary for the control of the attack and so the relationship of the age to the operation of the various causes assume importance. In early weeks of life cerebral hæmorrhage associated with birth injury or hæmorrhagic disease of the new-born is most frequent; infection ranks second, while tetany is uncommonly observed. Organising cerebral hæmorrhage may cause trouble not only for weeks but for several months after birth. In infants between four months and two years of age, tetany becomes more important as a cause of convulsion; meningitis also assumes prominence and meningism begins to be observed. In children over two years of age meningism is the most common cause of convulsions while meningitis, nephritis and encephalitis are also prominent. The diagnosis of epilepsy is entertained only in children beyond the age of infancy in whom repeated attacks of convulsions have occurred in the absence of any of the demonstrable causes mentioned. Symptomatic treatment, primarily sedative to stop attack is indicated where no specific treatment is available. In the ascending order of effectiveness the procedures employed to induce symptomatic relief are as follows: (1) Cold to head, heat to body followed by colonic irrigation: (2) chloral and bromides by mouth or by rectum—dosage from 5 to 15 grains depending on body weight; (3) ether—an immediate but often transient effect when inhaled; (4) phenobarbital sodium, phenobarbital or other barbiturates orally or by injection-1-3 grains according to weight; (5) avertin by rectum according to body weight; (6) paraldehyde by rectum, 2 to 6 c.c. according to body weight; (7) morphine—tolerance to opium is increased in patients in convulsions so that unusually large doses are indicated; in cases of prolonged convulsive states heavy sedation with repeated doses of a single drug becomes less satisfactory and dependence on alternate use of several drugs becomes necessary; morphine is not recommended where there is evidence of increased intracranial pressure specially with respiratory depression.

NOTES AND NEWS

MEDICAL COUNCIL OF INDIA

The provision of an all-India medical register was among the proposals referred to by Dr. B. C. Roy, in his presidential address at the meting of the Medical Council of India held at Delhi on March 21, 1941. He said this was one of the three proposals of the Council forwarded to the Government of India, who had, however, not intimated their views.

The second of the three proposals was the Council's resolution to discontinue the system of indirect reciprocal recognition of medical degrees of other countries through the General Medical Council; and, as a consequence, the Council recommended withdrawal of the recognition of the qualifications granted by the New South Wales Medical Board after March 31, 1941. The Council recommended to Government to set up a Reciprocity Board for the purpose of facilitating reciprocity between India and the various countries comprising the British Commonwealth of Nations.

In order to ensure a uniform standard of medical education registrable by the Indian Medical Council the Council has recommended that the Central Government should ask the Provincial Governments either to abolish medical schools for licentiates or to raise them to university standard.

In pursuance of the Council's resolution relating to the question of recognition by provincial Medical Councils of those medical degrees which were not recognised by the Medical Council of India, Dr. Roy said that the Central Government had taken necessary steps to communicate with the Provincial Governments and bring about suitable legislation.

Dr. Roy said that the Burma Government had intimated their decision not to enter into any scheme of reciprocity with India except through the General Medical Council. The Executive Committee had taken up the matter in order to find out India's constitutional position with regard to this decision.

The Council accepted the resolutions of the Executive Committee regarding the retrospective recognition of the Andhra and Patna M.B.B.S. degrees.

Dr. B. N. Vyas and Dr. K. S. Ray were re-elected members of the Executive Committee. The next meeting of the Council will be held in October at New Delhi.

DR. H. J. BHABHA, F.R.S.

Reuter informs that twenty new admissions to the fellowship of the Royal Society include Dr. H. J. Bhabha, reader in theoretical physics at the Indian Institute of Science, Bangalore, who is described as "distinguished for his contributions to the understanding of the cosmic ray phenomena and the fundamental theory of elementary atomic particles."

FRANKLIN MEDAL TO SIR C. V. RAMAN

The Franklin Institute of U.S.A. has this year bestowed its highest award, the Franklin medal, upon Sir C. V. Raman in recognition of his researches covering the last quarter century, in particular for his discovery of the Raman effect.

DEATH OF SIR FREDERICK GRANT BANTING

An accident to the plane carrying Sir Frederick Grant Banting to England on a mission of high scientific importance resulted in the catastrophic death of this eminent investigator. He was going to demonstrate, it is said, a method of nullyfying the effects of poison gas. It is understood that his formula was made known to others before his departure and hence there are prospects of salvaging the work which is reported to be "as great, if not spectacular, as his discovery of insulin."

To Banting mankind will remain grateful for insulin which is saving the lives of many diabetic patients and allowing them to lead a normal life.

MEMORANDUM BY THE BENGAL PHARMACEUTICAL ASSOCIATION ON THE PROPOSED BENGAL PURE FOOD BILL, 1940:

The above Bill seeks to remedy defects in the Bengal Food Adulteration Act, 1919, by enacting a new Bill of a more comprehensive nature.

Any Legislation designed to eliminate the adulteration of food and ensure that food reaches the consumer in as pure and wholesome a condition as possible, should be most welcome, but in the opinion of this Association the enactment of piecemeal Provincial legislation on this important and intricate subject is most undesirable. In common with the control of drugs, the control of foods should be on an All-India basis, should be uniform throughout India, and should apply equally to local manufacture and to imports. It is inequitable in the extreme that local manufacture should be strictly controlled and imports left entirely uncontrolled; differing regulations and standards in different Provinces and the possibilities of no regulations or standards at all in some of the more backward Provinces, would tend to raise considerable barriers against inter-provincial trade; the Analysts, Inspectors and other staff to be appoined under the drugs Act can carry out exactly the same duties under a Food Act, and it would be unnecessary and wasteful to have separate staffs to carry out identical duties under two different enactments; in most countries the control of food and drugs is covered by a single Act and the control of food and drugs is at all times inter-dependent. In India a Drugs Act has already been passed and a single Act, is, therefore, no longer practicable, but there is no reason why a Food Act should not be made supplementary to the existing Drugs Act, and the staff of Analysts, Inspectors etc., carry out the duties required by both Acts.

The Association, therefore, recommends that the Bengal Government should approach the Government of India and suggest that they should request all Provincial Governments to give them the necessary permission to enact a comprehensive Food Act, along the same lines as the Drugs Act, 1940.

The proposed Bill seeks to empower the Government to establish standards for food, the conditions under which food may be manufactured and sold, and to prescribe qualifications for the necessary staff to carry out the provisions of the Act, but contains no provision whatever for expert advice.

Following the example of the Drugs Act, 1940, this Association recommends that a new section be added to the Act after section 3, providing for a Statutory Technical Advisory Board, and provision throughout the Act should be made for the Government to formulate rules, establish standards, prescribe qualifications, etc., in consultation with this Statutory Technical Advisory Board.

In the opinion of this Association, it is undesirable in the extreme to place such arbitrary power in the hands of a single individual. It is possible, for instance, to visualize a Public Analyst who is a fanatical prohibitionist, having a sincere and convinced personal opinion that any quantity of alcohol is harmful. This sub-clause is most objectionable—it should be deleted entirely and any accused person should always have the right to bring forward expert evidence to refute the personal opinion of the Public Analyst.

Clause 25 should include provision to prescribe the qualifications of Inspectors. Inspectors to be appointed under such an Act will have very important duties to carry out and should have definite qualifications to fit them for such duties and such qualifications should be prescribed under the Act.

MEDICAL & SCIENTIFIC EXHIBITION, PATNA MEDICAL COLLEGE REUNION

The Medical and Scientific Exhibition organised by the Executive Committee of the Prince of Wales Medical College Old Boys' Association was opened on the 6th February by Dr. Sir Sultan Ahmed in the premises of the college.

Before declaring the exhibition open Sir Sultan delivered an address. The following are excerpts:—

"India is said to be one of the richest countries of the world for mineral resources. She is even richer in its possession of natural herbal resources of various kinds from which extraordinary efficacious medicines can be prepared. The jungles and hills supply in abundance herbs, reptiles and wild animals from which all kinds of medicines can be prepared. Indeed for natural resources you need not go outside the country at all for the preparation of medicines.

"Without in any way depreciating the efforts that have been made in the West in modern times one cannot but admire the most extraordinary researches of the Greeks and Arabs in ancient times who utilised the moss and grass at the bottom of the deep sea, the brains of a particular kind of cobra and reptiles and even the refuse of cattle for preparation of well-known drugs. Over and above these, consider the wonderful uses of well-known minerals and stones like iron, gold, silver, emarald, ruby and pearls.

"It would be a far and perhaps a stupid cry to think that India can be self-sufficient immediately in supplying the large quantity of drugs imported into this country. Recently it has been reported that a number of biological preparations, medicines, vaccines, etc., imported into India except those coming from a few well-known firms do not show much signs of activity.

"India is a poor country and it is a tremendous sacrifice that people go to the doctors for a cure at the high cost of treatment and in spite of the sincere attempts on the part of the physicians the cure is in a number of cases unsuccessful. Indeed the cost of treatment is beyond the means of many people. This difficulty can only be overcome if the drugs are manufactured in this country. Most of these preparations can be had from raw materials available in India.

"In some of the laboratories and chemical works attempts have been made and are being made for the preparation of drugs but the difficulty is that unless they are manufactured on commercial basis they will remain simply matters of academic interest. I have had recently to go into this question as a Member of the Industrial Research Board set up by the Government of India and I am glad to say that thanks to the interest taken up by the Commerce Member, the Hon'ble Sir Ramaswami Mudaliar, the preparation of a large number of drugs in British Pharmacopœia is seriously taken up on commercial lines.

"The difficulty in the preparation of some drugs on commercial scale are (1) non-availability of highly acid and alkali resistant plants (2) non-availability of certain chemicals at cheap price and (3) non-availability of necessary pilot plants. All these difficulties, however, are attempted to be got over and sooner or later if the Government of India continue to take the interest which they have recently taken, there is every hope for the manufacture of drugs at competitive prices in this country."

After the adddress Sir Sultan opened the Medical and Scientific Exhibition and distributed certificates to exhibitors. He was shown around by the organisers. Sir Sultan took a keen interest in the exhibits as he went around the exhibition.

CINCHONA CULTIVATION

The necessity of extending the cultivation of Cinchona from which plant quinine is prepared and for that purpose subsidising private concerns who might be willing to undertake the cultivation of the plant, has been stressed by the Indian Chemical Manufacturers' Association in course of a communication addressed to the Government of India and the Governments of Bengal and Madras, the two Provinces mainly interested in cinchona cultivation. It is pointed out that quinine is a very important and essential drug being a specific and effective remedy for malaria which is one of the most common diseases prevalent in India. It is stated that if effective treatment is to be provided for the millions of sufferers from malaria in this country, India would require annually at least 6 lakh lbs. of quinine whereas due to the high prices, the present consumption is about 2 lakh lbs., that is, only 1/3rd of the quantity required.,Even out of this 2 lakhs lbs. consumed, India produces only about 70,000 lbs. of quinine while the rest is imported from abroad. It is essential, therefore, that India should have sufficient supply of quinine at cheap price and the country should be self-sufficient in the supplies of this important drug, for in times of emergencies like the present one when foreign supplies are cut off, the prices of this drug increase considerably and adequate supplies are also not available. The Association points out that sufficient land suitable for cinchona cultivation in Bengal and Madras is available as shown by investigations made on several occasions in the past and also recently for extending the cultivation. As cinchona is a long period crop it is requested that the Government of India and the Provincial Governments concerned should take early action to encourage the cultivation of this crop and to give financial assistance to concerns willing to undertake the same.

SIR PRAFULLA CHANDRA RAY
Eightieth Birth Commemoration:
AN APPEAL FOR FUNDS

On the occasion of the completion of the eightieth year of Sir Prafulla Chandra Ray (August 7 1941), it has been proposed by his friends, admirers and ex-pupils to raise a fund with which his name will be associated. The income of the fund will be devoted to the furtherance of scientific and industrial research in India, a cause which Sir P. C. Ray has advocated all his life.

It is superfluous to acquaint the public with the manifold services which Sir P. C. Ray has rendered to the country. Even while a student at Edinburgh he thought deeply about the political condition of India and produced a pamphlet which excited wide interest. As a young Professor, he devoted years of work to finding out from original sources an exact estimate of the contribution of ancient Indians to the science of chemisty. The result has been his monumental History of Chemistry in ancient India as yet unsurpassed by any modern work. As Professor of Chemistry in the Presidency College, and later as Palit Professor of Chemistry of the University College of Science, Calcutta, two generations of students, many of whom now occupy very prominent positions in the public life of India sat at his feet and received from him not only their knowledge of chemistry, but inspiration for a new life as well. In mature years, he was the founder and main inspirer of the Indian School of Chemistry. He has alco been associated with almost every philanthropic activity in this country and has organised large-scale relief work in times of flood and famine. In 1918, as a member of the Chemical Services Committee he fought hard for the promotion of industry by the Government. He has founded big chemical industries himself, which have brought wealth to the country, and has inspired the promotion of a large number of other industrial and commercial enterprises. And above all, as a rational thinker, he has preached the gospel of science and industry in this country.

Had Sir P. C. Ray cared to retain for himself a little of the remuneration which he might have justly demanded as his share in the promotion of large-scale industries, he might have had by this time a prince's income. But he has always disdained wealth and has given away his earnings to the poor, to needy schools and colleges and other educational institutions and, in general, for the alleviation of human distress, leading all the time the simple life of an ascetic. It is the duty of his countrymen to honour him in a befitting manner and no monument will be more enduring than a fund named after him which will be devoted to the promotion of industrial and scientific research in this country.

Even after passing four score years he is quite fresh and vigorous in mind and is taking his full share in the activities for the advancement of the country. We hope that while he is still with us, it will be possible to raise this fund and devote it to the purpose dearest to his heart.

Pramatha Nath Banerjee, Sailendra Nath Banerjee, J. N. Basu P. C. Basu, S. S. Bhatnagar, G. D. Birla, Jugal Kishore Birla, Charu Chandra Biswas, Sarat Chandra Bose, Subhas Chandra Bose, U. N. Brahmachari, C. V. Chandrasekharam, Ramananda Chatterjee, Sanmukham Chetty, R. N. Chopra, A. R. Dalal, G. V. Deshmukh, N. R. Dhar, J. M. Dutt, Ashutosh Ganguli, J. J. Ghandy, J. C. Ghosh, Tushar Kanti Ghosh, Badridas Goenka, Maurice Gwyer, M. Azizul Haque, Mian Md. Afzal Hossain, A. K. Fazlul Huq, Akbar Hydari, Mirza Ismail, Amarnath Jha, D. K. Karve, D. P. Khaitan, Kasturibhai Lalbhai, S. C. Law, Bijoy Chand Mahatab, R. C. Majumdar, Suresh Chandra Majumdar, R. P. Masani, Jivraj N. Mehta, Gaganvihari L. Mehta, Biren Mookerjee, Syamaprasad Mookerjee, Manmatha Nath Mukerjee, P. N. Mullick, G. A. Natesan, Jnananjan Neogi, Rajendra Prasad, S. Radhakrishnan, Shri Ram, C. P. Ramaswamier, N. S. Subba Rao, C. R. Reddy, Asoke K. Roy, Bidhan Chandra Roy, Jadunath Roy, Birbal Sahni, Ruchi Ram Shani, Tej Bahadur Sapru, Ambalal Sarabhai, Nalini Ranjan Sarkar, Srinivas Shastri, Abdur Rahman Siddiqi, Sachchidananda Sinha, Nilratan Sircar, H. S. Suhrawardy, Shah Md. Sulaiman, Rabindra Nath Tagore, T. Vijayaraghabachariar, M. Viscesvaraya, N. N. Sircar (*Chairman*), N. N. Law (*Treasurer*), M. N. Saha and B. C. Guha (*Secretaries*), P. C. Mitter, Prafulla K. Bose, J. N. Mukherjee.

BOOK REVIEWS

TUBERCULOSIS OF THE UPPER RESPIRATORY TRACTS—By F. C. Ormerod, 1939, Crown 8vo., 215 pages with 55 illustrations. John Bale Medical Publications, Ltd., London, Price 21s. net.

General physicians, tuberculosis workers and laryngologists owe a debt of gratitude to Dr. Ormerod for bringing out such a comprehensive account of some of the different complications of pulmonary tuberculosis and for giving a well-balanced view of diagnostic and therapeutic methods, based on his 16 years' contact with the Throat and Ear Department of the Brompton Hospital, London.

The book is divided into 4 sections—tuberculosis of the (*a*) larynx, (*b*) pharynx and its associated structures, (*c*) nose, accessory sinuses and nasopharynx and (*d*) ear. 136 out of 215 pages have rightly been devoted to the important subject of tuberculosis of the larynx, including a chapter on Lupus of the Larynx. Besides a short historical note, each section deals with the etiology, pathology, symptomatology, diagnosis, prognosis, treatment and end-results of the different conditions. Each of these aspects of disease has been ably dealt with and, where methods of diagnosis or treatment are concerned, their relative value has been emphasized by the recording of the author's own experience. The illustrations are nicely executed and well reproduced.

A very useful reference has been made to the value of tomography in the detection of laryngeal lesions. We agree with his views that although "radiography is, in its usual form, of little or no help in the investigation of tuberculosis of the larynx", the introduction of tomography has provided a means for demonstrating lesions particularly in the hidden territory below the vocal cords and the extent to which a lesion has extended downwards into the subglottic regions.

The author has put together much valuable information and experience in this handy volume. The select bibliography at the end of each chapter adds to the value of the work. The paper, printing and get-up do credit to the publishers.

A. C. U.

A TREATISE ON DISPENSING, NURSING AND HOSPITAL EMERGENCIES—By Dr. Mohd. Rahmat Elahi Siddique. 1938. Crown 8vo. 530 pages. Illustrated. Published by the Author, Allahabad.

Dr. Siddique has compiled this book for the Compounders and Nurses. He has spared no pains in giving a detailed account of dispensing, posology, minor surgery, splint and bandages. His chapter on general nursing is very instructive. The list of preparation of invalid food is rather incomplete. The book contains many practical hints which will be useful to a private practitioner. Dr. Siddique has been successful in his efforts.

B. P. Neogy.

PRACTICAL GUIDE TO POST-MORTEM EXAMINATIONS WITH SPECIAL REFERENCE TO THEIR MEDICO-LEGAL ASPECTS AND A CHAPTER ON EMERGENCY TREATMENT IN ACUTE POISONING—By Dr. Sudhir Kumar Bose, M.B., Captain, I.M.S. (*retd.*) 1939. Crown 8vo. Pages 86, interleaved. Published by Ghosh & Co., Calcutta. Price Rs. 3/8/-.

This book is perhaps the first of its kind written by an Indian author of long experience and great erudition. Though small in size it embodies the wide experiences of various European and Indian authorities on the subject more or less modified by author's own observations according to the climatic conditions of this province, *viz.*, Bengal.

Being a thoroughly practical book, both the medical students and practitioners will find it to be of great help and a useful guide in learning and performing not only the medico-legal but also the pathological post-portem examinations.

The subject matter has been ably efficiently and exhaustively dealt with within a short compass in a lucid and fascinating style and language.

The value of the book has been greatly enhanced owing to incorporation of the recent and the most up-to-date treatment of common poisons which the medical practitioners are most likely to come accross during the course of their private or hospital practice as the case may be.

Insertion of blank pages in between the leaves will undoubtedly be highly appreciated as it will give facilities to make note of any and every abnormality noticed at the time of performing autopsy.

The author is to be congratulated on the successful performance of one of the most difficult task for which he spared no pain to make the book useful and attractive to those for whom it is written and published.

The get-up and printing have left nothing to be desired. A few spelling mistakes which are unavoidable in the first edition will surely be corrected in the next.

H. N. Bakshi.

A HAND BOOK OF TOXICOLOGY—By Dr. B. K. Dutt. Price Rs. 1/8/-.

This Hand Book of Toxicology is the outcome of the vast experience of the author. It is written and published with a view to remove the difficulty of the senior medical students who find it too hard to master the subject of poisoning especially at the time of preparing themselves for the final examination in Medical Jurisprudence.

As the Assistant Teacher of Forensic Medicine for a considerably long period, the author, coming in touch with a very large number of students, came to know and appreciate their drawbacks and difficulties.

During the course of teaching he found that the students in general dread the subject of poisoning on account of confusion arising from similarity of signs and symptoms of many poisons.

By properly grouping the poisons and tabulating their uses, signs, symptoms, treatment and post-mortem appearances in the form of charts, the author has to a very large extent become successful in obviating the difficulties of the students who will, as a result, find it easy to remember each and every poison included in this book without over-taxing their memory.

Though mainly intended for the students, careful perusal of the book will greatly benefit the general practioners as well.

In congratulating the author it may confidently be asserted that his labour has not been in vain, and that it ought to be amply rewarded.

H. N. Bakshi.

CORRESPONDENCE

The Editor, *Journal of the I.M.A.*, Calcutta.

Sir,

In the Editorial of January '41 issue of the Journal it is stated that "It is now well known that Madras, U.P. and Bombay have already abolished the School Standard of education and others are about to follow." In his presidential address at Vizag. Conference Dr. K. S. Ray said, ".....following the lead given by Dr. Rajan, Dr. Gilder and Mrs. V. L. Pandit.....in abolishing the School Standard..... etc."

I have to point out that Bombay has not as yet abolished the School Standard of Education. The Bombay Branch of the Indian Medical Association and the All India Medical Licentiates' Association have been repeatedly moving the matter but nothing has been done so far by the Government. It was suggested to Dr. Gilder, the then Medical Minister under the Congress Government either (1) to amalgamate the schools and convert them into one college or (2) to abolish one or both (3) or to meet with the financial difficulties, to permit the running of a lottery under state patronage and to utilise the money for the purpose of improvement of the Medical Institutions. But during his regime, and even after we see no signs of the consummation of our ideals.

Yours sincerely,
Sd. U. B. Narayanrao
Member, Central Council, I.M.A.

Bombay
21-2-41

(We hasten to correct the errors—Ed. *J.I.M.A.*)